

*Annals of Botany* 20  
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AN  
INAUGURAL LECTURE  
ON  
BOTANY,

CONSIDERED AS A SCIENCE, AND AS A BRANCH  
OF MEDICAL EDUCATION.

READ IN KING'S COLLEGE, LONDON, MAY 8th, 1843.

BY

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MR. PRINCIPAL AND GENTLEMEN,

ONE of the last friends from whom I parted before leaving England two years ago on a voyage of research in the East, was the distinguished and much-lamented botanist whom I have the high but melancholy honour of succeeding in this chair. His last words on that occasion were instructions for my guidance during a proposed investigation of the natural history of the Archipelago and Asia Minor. The great knowledge which he possessed of botanical science was freely and enthusiastically imparted to all who had the pleasure and benefit of his acquaintance. In the place of that knowledge and experience, I fear I can only offer a fervent attachment to his favourite pursuit, and a determination energetically to labour in the service of this noble Institution.

The duties of the Botanical Professorship are, the teaching of Botany as a science, and as a branch of medical education. Being rather an ally than a province of medicine, it forms a connecting link between professional and purely scientific studies. The nature of the subjects of which it treats, requires that it should be numbered among the studies of the Summer Session, when it is honourably associated in the medical department with forensic medicine and practical chemistry. In this introductory lecture I propose, with your permission, to offer a few remarks on the Natural-History sciences generally, and on Botany in particular, as branches of medical education; to take a brief view of the relations of Botany to other pursuits; and to offer some considerations upon the science, and upon the principles of acquiring a knowledge of it.

The Natural-History sciences are three :—**ZOOLOGY** treating of the animal kingdom, **BOTANY** of the vegetable, and **MINERALOGY** of the inorganic bodies abounding in nature.

These three are united by the inquiries of GEOLOGY, which is rather an exposition of their mutual connexion than a separate science of itself. It may be looked upon as the history of the earth's changes during its preparation for the reception of organized beings, and of the causes which determined the order of their appearance—the proemium of the history of MAN.

The biological sciences, zoology and botany, are intimately related to physiology and anatomy; and the more those sciences advance, the closer will be the connexion. In the most remote divisions of the animal and vegetable kingdoms, we find the keys which enable us to lay open and understand the mysteries of vital phenomena. Through a knowledge of the structure of a simple polype we may comprehend more clearly the complicated machinery of the body of man; and the observation of the origin and development of a seed may throw light upon one of the most intricate functions in the animal economy.

The views of systematic botany and of systematic zoology are fast attaining a parallelism which must end in the discovery and development of great general laws common to both. The two great kingdoms of organized nature seem to spring, as it were, from one root, and to branch out into correspondent trunks, which, even at their most distant ramifications, exhibit mutual analogies. The lowest forms of each so closely approximate as to furnish subjects for continual discussion; and the number of species, the position of which, whether in the animal or vegetable kingdom, is as yet disputed or undetermined, proves the close alliance of the animal and vegetable natures toward the point of union. Creatures which Ehrenberg figures as *animalecules*, Meyen describes as plants; and naturalists have not yet ceased debating on the nature of sponges and corallinæ. As we ascend in each great

series, the animal or vegetable nature of their respective members becomes more and more decided and unquestionable, while there is still retained a close resemblance of external form. Thus a *Mucor*, an *Agaricus* and a *Sphaeria* image, as it were, their parallels and yet opposites, a *Hydra*, a *Medusa* and an *Echinus*. Ascending higher we find all resemblance of form disappear, but still there is a true analogy. The exoskeleton of the *Monocotyledones* represents, though far and faintly, the exoskeleton of the *Articulata*; and the endoskeleton of the *Dicotyledones* the same great modification of structure in the *Vertebrata*. Both kingdoms seem pervaded by a double representation of each other,—two great spheres, as it were, repeated within themselves; a representation which will in all probability be found as true in the minor as in the major groups of organized beings.

Very different laws regulate the mineral kingdom. Life absent, all the wonderful structures which result from its formative presence have disappeared. Aggregation is but a faint remembrancer of assimilation, and crystallization of organization. The laws of chemistry take the place of the laws of physiology, and it is in the laboratory that a great and important portion of the observations of the mineralogist must be conducted. Those who would gain a sound knowledge of the inorganic substances found in nature, should avail themselves of the instructions and exercises of the practical chemistry class-room as a preliminary study of essential importance; one too of no small consequence to the biologist, as well as absolutely necessary to the physician.

In all the natural-history sciences the process of inquiry is the same. A close and patient investigation of structure is entered into, and a careful examination and comparison of forms with a view to the grouping of them in natural assemblages, the right understanding of which exposes to us the



great laws from the operation of which the admirable harmony pervading nature and manifesting creative wisdom results. Much, very much, yet remains to be done; and there is no fresher field for original research, and the development of a grand philosophy, than that of natural history.

Of all the natural-history sciences BOTANY is the most advanced and the most pursued. From an early period in man's history the attention of the observing had been directed towards the vegetable kingdom, partly from the facilities for the study of plants—assembled as they are in their various kinds abundantly around us—and partly on account of their virtues, real or imaginary. In the olden time the herborist and the physician were one: in nations as yet unemerged from their infant or barbarous state they are one still. The objects of the study were at first purely utilitarian. Fanciful resemblances to the forms or symptoms of disease furnished the principles of botanical arrangement. But continued inquiry, even when conducted upon false principles, led at length from empiricism to science, and the herborist ripened into the botanist. A new light broke upon him. Plants were no longer to be regarded as mere depositaries of decoctions and elixirs, but were to be examined for their own sakes. The wonders of their structure were exposed; the variety of their forms compared and classified. Their lives were written. The vital processes, continually going on within their bodies, were explored; their affinities with each other and with the animal kingdom investigated; and their history became a store, from whence could be drawn at pleasure numberless admirable examples of the perfection of design in creation, and of the benevolence and omniscience of the Creator.

This change in the object and manner of the studies of the botanist did not, however, divorce the science from its union with medicine. On the contrary, it bound their ties firmer

together. The true knowledge gained by studying the vegetable kingdom scientifically yielded more benefit to medicine than all the fancies and dreamy theories of the herborist. We learned that the properties of plants were correspondent to their natural affluities ; and the discovery of the botanical relations of a species gave us the true clue to its useful qualities. Reason banished fancy from the selection of vegetable remedies, and the gain to medical science was great indeed.

The teaching of Botany in its relations to Medicine is not one of the least important duties of this chair. But I should be deceiving my pupils and myself if I encouraged for a moment the supposition that such object is to be gained by the mingling of herboristic notions with the more scientific parts of the subject. That the medical student acquires but little by his attendance at botanical lectures, is not an uncommon fancy among the senior members of the profession. Some eminent men have gone so far as to denounce it as lost time. The utmost the student is supposed to carry away is a knowledge of the names, classes and orders of such plants as furnish products used in medicine. It seems to me that the true object of the connexion of natural-history studies with more professional pursuits is, as in this case, too generally lost sight of, and I gladly avail myself of this opportunity to urge their claims on your attention, and to plead for them on grounds which have not been put forward sufficiently prominently hitherto, though by no means novel, seeing that the positions I am about to maintain are avowedly acknowledged in private by most scientific teachers, though rarely advanced in the class-room. The plea which I wish to advance is, that the main use of the natural-history sciences to the student is not merely the teaching him a certain number of facts, the recollection of which may be serviceable to him in after life, but the training his mind, by means of the peculiar forms of

research which characterise those sciences, to that tone and vigour which must be of the utmost consequence in giving him power for future professional avocations of a different nature, especially such as are to form the after-occupations of the student of medicine.

Not that for a moment I would have you suppose that I am depreciating the value of a knowledge of the facts of natural history,—far from it: I have myself derived too much pleasure, too much benefit from an early study of that delightful science not to appreciate its full value, and not to be desirous of seeing all men acquainted with it; but that, viewing it as a branch of education, I am anxious to point out in what its true educational value lies, and not to evade the question by enumerating how many animals, plants and minerals a student may be able to recognise if he diligently pursue zoology, botany, or mineralogy. A student of any science, well-trained in the modes of investigation which that science teaches, is a much more valuable member of society than a youthful encyclopedia or a living book of facts.

The two qualities most essential to the physician are *correct observation* and *accurate discrimination*. The first depends mainly on the power of seizing all the features of an object or case with clearness and facility, detecting adventitious characters at sight, and excluding such from all influence on our conclusions. The second implies powers of just comparison, of perceiving the mutual relations of parts or facts, and of testing the possible agreement of statements with the circumstances which accompany them. Now though all men are endowed with the elements of these qualities, all are not born correct observers or accurate discriminators. Men must be educated into such. The mind must be trained to reason justly, the instruments of the mind to observe correctly. The classical and mathematical studies of our youth are not in-



tended merely to teach classics and mathematics, but to train us to the business of life, and to right judgement in the higher pursuits of men. The bodily exercises of our youth have not for their object merely those pleasures which such exercises afford, but the strengthening of our physical powers in order to ensure us a healthy and vigorous manhood. The training of the mind makes the intellectual man, the training of the body the physical man. The end is gained in both cases by means essentially distinct from that end. Now I hold that natural history should be regarded in a similar light among the studies of the young physician.

The first lesson of natural history is observation. The study of an animal or vegetable species is the perfection of observation as far as that species is concerned. The form, the substance, the qualities, the phenomena of existence, the influence of surrounding objects, are all observed with the greatest precision, and defined so as to be capable of expression in words. No point affecting that species is left untouched. The study of a group or genus of animals or vegetables is in like manner the perfection of discrimination. All the members of the group are compared in all their parts with each other, the relations which they have in common are summed up, and their differences recorded in every possible point of view. The causes of those relations and differences are anxiously inquired into, and a survey is taken of the bearings of the whole group to its proximate allies, and, finally, to all equivalent assemblages in organized nature.

Who can rise up from such a study and not feel mentally strengthened? The mind through such an exercise must gain in both its analytic and synthetic powers. Such an investigation calls into action all the faculties, the perfectionizing of which is essential to the formation of a sound physician. The mental process is the same at the bed-side of the patient

and in the cabinet of the naturalist : its first element, correct observation, leading to correct diagnosis ; the second, accurate discrimination, leading to sound methods of treatment in the one case and philosophical views of affinity in the other.

It may be objected, that the student had much better learn all this at the bed-side than among fields and flowers. To this I would answer, that no training is so strengthening as that which separates the process from the object of the process. I believe the confounding of the two has been a great evil in medical education. It leads to habits of loose reasoning, and blunts the most valuable power of detecting fallacies. Too many professional works notoriously abound in bad logic resulting from such confusion. May we not remedy this defect by making the scientific branches of medical study—the collateral sciences as they are termed—means of educating the mind of the student, so as to enable him to enter on his practice with a truer eye and sounder judgement? It is well known that medical men who have had the benefit of a good scholastic education previous to the commencement of their professional studies enter upon the latter doubly armed, and throughout life often maintain their superiority over their brethren equal or even superior in natural talent, though wanting the benefit of such training. May we not remedy the defect in the case of the latter, and specialize the superiority of the former by means of the mental exercise afforded by the study of natural history? I do not mean that men should be made naturalists before entering on their medical studies, but that the practical and more abstract branches of the medical curriculum should be pursued equally together, and that, while the acquiring of professional information is a grand object of the student's pursuits, the training which gives the power to apply that information with precision be not lost sight of, but occupy a prominent place in the division of his time.

And here I would say a word or two on the propriety of the physician and surgeon combining scientific with professional knowledge. A time was when an acquaintance with the purely practical parts of their profession was all too many medical practitioners thought it necessary to acquire. This degrading idea was favoured by the non-professional public, and to gain a prominent position in literature or science was too often to close the gates of professional success. But that time is either gone by or is fast waning away. That profession, the investigations of which involve some of the deepest problems in human philosophy, must become more and more scientific every day. Sound education in literature and scientific instruction in his profession are fast elevating the character of the medical student ; and, in the end, an unscientific practitioner will become as rare as a medical sceptic. One great evil which has tended to retard the intellectual advancement of the medical student, especially in this great city, has been the separation of his studies from all association with the pursuits of the scholar and the philosopher. The air of a hospital is mentally unwholesome, unless mingled with a full proportion of collegiate atmosphere. The very neighbourhood of literary and scientific studies has a purifying and elevating effect on the mind of the student.

In eastern cities men are grouped into castes, each confined to one occupation and inhabiting one quarter. Civilization is thereby impeded : men's minds become narrowed into mechanical modes of thinking, and, in the end, the whole nation suffers. Is there not something of the same kind in exclusive professional education ?—a contraction of the mind, from its association during the most active and impressible phase of its earthly existence with such minds only as are absorbed in similar pursuits ? Shut out from the spirit of letters, of science and of art, exclusively occupied with one set of thoughts

and practices, the man sinks into the drudge. But when the student finds he is marching onwards to the goal of knowledge along with a numerous company of youthful seekers after truth in all its varied forms, marshalled by skilful and earnest leaders, whose discipline alike regards their morals and their intellect, his mind warms in its sympathies, and extends its appreciation beyond its own special duties to a participation in those of its companions. Such a progress may be looked for as the result of the system followed in this Institution ; and the young physician and surgeon who have been educated within its halls will have the high gratification of entering on the duties of life a scholar, a man of science, and a man of taste ; and, above all, imbued with sound principles of religion and morality.

What I have said in regard to the importance of the natural-history sciences, more especially botany, the most advanced, as training studies, is not merely applicable to the medical profession, but also to all other pursuits, whether general or professional. Professor Daubeny, in the excellent essay which he has just published on the writings and philosophical character of the great botanist of Geneva, DeCandolle, whose recent death has been so severely felt by the scientific world, well remarks on his science, that, "if prosecuted in a philosophical spirit and with a constant reference to first principles, it might be capable of serving an important purpose in training and disciplining the mind of the student."

Though it seems to me that the greatest benefit his botanical studies confer on the medical student is the making him a correct observer and careful reasoner, there is a fact-knowledge which he can derive from them of the greatest consequence in his profession. There are more than 300 species of plants which furnish substances used as articles of *Materia Medica*. The power of distinguishing these various species



from each other must be of consequence to him who has to make use of their products. Medical men are expected to be able to refer each item of the Pharmacopœia, which may be derived from the animal or vegetable kingdom, to the particular species of animal or plant by which it is contributed; to assign every such species to its family and class; and to be acquainted with their constitution and the general characters of the beings included within their bounds. A knowledge of botany enables us to distinguish such plants as are harmless or nutritive in their properties from such as are deleterious or poisonous. This knowledge is not often called for in the ordinary routine of medical practice, but to those who enter either of the services it may become of great consequence. The army or navy surgeon, when in the field or at sea, is not unfrequently thrown upon the resources of his early studies. During the perils of warfare he may find himself in situations when a stray recollection, derived from his former pursuit of the collateral sciences, may put it within his power to afford substantial relief to his suffering comrades. Even the wisdom of the herborist is then of value. When famine or sickness is raging, it is often within the power of the medical naturalist to alleviate its horrors, to select the wholesome herb from among the poisonous, or to find a substitute for medicine among the indigenous plants of the country when the medicine-chest is exhausted or plundered. Every naturalist who has wandered among the wilds of a half-civilized land must recollect times, when any little information he could give on the nutritive or medicinal properties of its productions was gratefully and with avidity received by its poor inhabitants. To feel that we can alleviate distress, or add a comfort, is a pleasure which lasts throughout life, and the recollection of which is as refreshing to the giver as the succour was to the receiver.



Botany then is of importance to the medical man as a means of acquiring a knowledge of the sources of such remedies as are derived from the vegetable kingdom. An important part of the duty of the Professor is to teach the student how he is to gain that knowledge ; the exposition of its results rather belongs to the office of the Professor of *Materia Medica*, and I need not remind you that few combine such an extensive and original knowledge of that branch of medical inquiry, with a profound acquaintance with botanical science, as my eminent colleague in that department.

A knowledge of the facts of botany is of importance also to the agriculturist and the chemist, and even to the man of the world it may afford profit and pleasure. To the first the principles, at least, of physiological botany are necessary if he would rightly understand what he is about. The union between botany and agriculture is every day drawn closer, and in these times, when we find the once distinct characters of the country gentleman and man of science so often and so honourably combined, botanical and chemical science have become essential parts of his education. The researches of the chemist are now more than ever directed to the investigation of organized bodies, and a knowledge of the principles of vegetable physiology is a necessary aid to the success of his inquiries.

The man of the world, whose time is at his own disposal, and whose year is in part devoted to foreign travel, will find a knowledge of botany a new source of pleasure. All who have journeyed much in foreign lands have felt the delight of examining some beautiful and strange flower, when crossing some wide and dreary tract of country, such as every here and there we meet with on the continent ; and many an idler has been metamorphosed into a man of science by the recollection of the satisfaction he had derived from such accidental direction of his attention to the minuter beauties of nature, and from

the desire to renew the pleasure he then experienced. As long ago as the days of the first King James, the most chivalrous nobleman in England wrote in his autobiography, "it is a fine study and worthy of a gentleman to be a good botanic\*."

The utility of a study of botany to the zoologist and geologist cannot be too highly estimated. The perfection to which the labours of Linnæus, DeJussieu, DeCandolle and their numerous co-labourers and pupils have brought systematic botany, furnishes the zoologist with a sound model on which to mould the descriptive part of his science, but one with which he is usually I fear too slightly acquainted to make good use of. Zoology has yet to attain the precision to which botany so rapidly advanced through the logical acuteness of the great minds who embraced the study,—a precision greatly forwarded by the general knowledge of their subject which they considered it their duty to acquire before they engaged in original special research. The perfection to which botanical diagnosis has attained is truly astonishing. More than 50,000 species of known plants are distinguished from each other by short summaries of their essential characters, sometimes occupying but a few words, and at most but a few lines. Yet there is no confusion. The printed diagnosis is sufficiently precise to enable the student to ascertain the name and affinities of any plant he may gather even without the help of figures or other artificial aid. That zoological science may attain an equal degree of precision, no thinking naturalist can for a moment doubt; but until more zoologists than now do, study the principles by which such precision has been attained, their science must rest in the unsatisfactory state which deforms great portions of it at present.

The importance of a knowledge of botanical science to the

\* Lord Herbert.

geologist rests on different grounds. Perhaps to him its greatest value may lie in conferring that training which I have advocated in commenting on the botanical studies of the physician. But it is also of the greatest use in enabling him to understand the nature and relations of the numerous fossil remains of vegetables imbedded in the earth's strata, and the examination of which affords such important data for determining the relative ages of formations, and the conditions under which they were formed. When we recollect that the great beds of coal, which furnish such a valuable item in the list of our economical comforts, have been derived from the destruction of ancient herbs and trees, we must view with astonishment the important part played by the vegetable kingdom in contributing to the substance of the earth's crust.

The history of botany, from the time it first assumed a scientific character to its palmy state in the present century, is more instructive than that of any of the other natural-histories, though later in its development; for among the ancients, its most eminent votaries, Theophrastus and Dioscorides, were rather herborists than botanists, and originated no grand generalizations like those which gave the first impulse to zoological science, nursed by the giant mind and indefatigable research of Aristotle. But though zoology started with the speed of the hare, botany, like the slow tortoise, at length overtook it in the race, and the heavy volumes of Bauhin, Gerard and Cæsalpinus were all so many steps on the way. It first quickened its speed as a science of observation. Ardent naturalists went forth into foreign climes, and collected their vegetable products with indefatigable industry, noting carefully their living forms and hues. Others, tied down by the trammels of home-occupation, gathered the plants of their native countries and recorded their variations. Confused ideas of natural affinities clouded their early arrangements,

but from the material so accumulated truer notions were in time generated. The good and kind-hearted rather than the strong-minded were the first votaries of the science. The gentleness of the pursuit was adapted to the kindliness of their natures. Their earnest unbiassed studies originating in the admiration of the wonders and beauties of creation, and deep reverence for the great Origin of all things, were the corner-stones of botanical science, and on such a sound and firm foundation the superstructure could not fail to be nobly and speedily raised. In time the building was commenced; Ray, Tournefort, and a host of lovers of nature laid the first stones. Linnæus and Jussieu were the chosen architects.

The great Swede, whose many-sided mind made all the science of his time contribute to his grand purpose of developing the system of nature, saw at a glance, that though there was much material collected, more must be continually gathering, and that to make good and rapid use of what had been drawn together, machinery was wanting.

“Instrumentis et auxiliis res perficietur: quibus opus est nihilominus ad intellectum quam ad manum\*.”

Linnæus invented the required instruments and aids. Whilst he taught that the grand aim of botany should be the discovery of the true arrangement of plants in nature, and boldly sketched his idea of what he conceived that arrangement would prove to be,—in order that such great end might be the more speedily attained, he devised two ingenious artificial schemes, which, as he foresaw, led to the desired results. These were the binomial nomenclature, and the classification of plants according to the number or arrangement of their sexual organs.

The first of these inventions, the simplicity of which is that characteristic of all the creations of genius, became the great-

\* Bacon, Nov. Org. lib. i. aph. 2.



est means of furthering the progress of natural history. It was endowing it with a universal language, in which all its followers might converse with perfect mutual understanding. The distinctions of nation and tongue were abolished by this admirable scheme, the universal and simultaneous adoption of which at once proclaimed its own excellence and that of its author.

The second was, as it were, the making of an index to a great section of the book of nature. Those who slightly think of the Linnæan system, as it is termed, forget in the present to look back fully and fairly on the past. They should remind themselves of the state in which botany was when Linnæus undertook to make its treasures consultable. The understanding of things depends greatly on the perception of their order and relations. When that order and those relations require deep study ere we can comprehend them clearly, the man who gives us a clue, however insignificant it may be in its own nature, is not only conferring on us an invaluable benefit, but endowing the despised instrument with golden value. Such a clue did Linnæus give when he put forth the sexual system. The scientific systematist, surrounded by the stores of his herbarium, should not forget that those treasures were often amassed in the first instance by adventurous and earnest men, rendering good service by their hands and energy, as good in its humble way as that which he gives by his head and philosophy. It was not to be expected of such men that in the field they should occupy themselves with thoughts of arrangement or affinity; their part was to observe and select, and the guide to their observation and selection was in most cases no other than the Linnæan system. In the scientific hive as in the apiary there must be working-bees and neuters as well as queens and drones: it is necessary for the economy of the commonwealth. An easy means of acquiring and arranging



information is a great help to the workmen of science, and no department has gained more thereby than botany, which, through the facilities afforded by the artificial method devised by Linnæus, has had its facts amassed in enormous quantity for the use of its more philosophic votaries, and owes its present advanced state in a great measure to such humble means.

The clue to the labyrinth, then, having served such noble purpose becomes a consecrated object, and should rather be hung up in the temple than thrown aside with ignominy. The traveller returning from his adventurous and perilous journey of discovery, hangs up his knapsack with affection on the wall of his study. But travellers must return to the fields, if more is to be done; and so must botanists, and each must have recourse again and again to those helps which aided them so well in their earliest journeys.

In saying these few words in favour of the Linnæan system, I know I am pleading an unpopular cause; but I speak out freely, partly because I mean to proceed on a different basis in conducting the botanical studies here, and partly because, after the once over-enthusiastic attachment to the Linnæan method which prevailed so long in Britain, and which was carried so far as to impede the progress of botany, a reaction has taken place which threatens to blind the eyes of the younger botanists to the merits of a device which was, and ever will be, a most valuable auxiliary of the science.

The aim of Jussieu was of a different kind. Gifted with a highly philosophic mind, he concentrated its powers mainly on one subject. His devotion produced great results. He placed the study of the natural affinities of plants on a practical basis, and originated those views afterwards more fully developed by DeCandolle and other distinguished men. The spirit of Jussieu has presided over the greatest botanical works

down to the present day, and his influence is as powerful now as when he first expounded to his delighted pupils just views of the vegetable kingdom.

The genius and doctrines of Linnæus and Jussieu having placed botany on a sure scientific basis, hosts of labourers crowded to the field, and the enthusiastic pupils and admirers of those great men went forth observing and collecting over every discovered land. The facts they added demanded new research and modified arrangements. Still the great stage of *classification* had been attained, and the science was to enter on the third æra of its existence, that of *philosophical investigation*. In that æra we now live. Its characters are—the observation of facts, not so much for their own sakes as for the illustrations they afford of the laws of the science; careful experimental inquiries into the phænomena of vegetation, not undertaken as isolated researches, but with a view to their comparison with vital phænomena throughout animated nature; minute anatomical investigation under the microscope, not conducted merely to display new forms of structure, but in the hope of solving, if possible, the problem of the ultimate structure of tissues; the construction of local floras and publication of local catalogues, not with the limited view of assisting the inhabitants of a province to a knowledge of their vegetable compatriots, or with the pardonable vanity of showing how many fine plants grow in the author's country, but in order that the great laws of the distribution of organized beings on the surface of our globe may be discovered and developed; and the construction of systematic arrangements, not framed solely for the ascertaining of the natural alliances of families, important as such object is, but also with the view of discovering the great laws which doubtless regulate those alliances equally in the animal and vegetable kingdoms.

Many of the conclusions which such inquiries are yearly

developing, are but the confirmations of hypotheses advanced ere philosophical investigation in botany was the rule and not the exception. But ideas are like seeds: they do not germinate until they meet with the conditions favourable to their germination. The great moving idea of modern botanical philosophy is that of the origin of all the appendages of the vegetable axis in the transformation of the leaf, their normal type. Linnæus himself put it forth in his 'Philosophia Botanica':—

“PRINCIPIUM FLORUM ET FOLIORUM IDEM EST: PRINCIPIUM GEMMARUM ET FOLIORUM IDEM EST: GEMMA CONSTAT FOLIORUM RUDIMENTIS. PERIANTHIUM SIT EX CONNATIS FOLIORUM RUDIMENTIS.”\*

Thus aphoristically did Linnæus proclaim the grand doctrine of morphology, the influence of which in science, strange to say, was not to be exerted until Goethe, himself a second discoverer of the truth, had proclaimed it anew in a poem. When the prince of naturalists proposed it, the time had not arrived for its appreciation. It lay dormant until the genius of a poet roused it into life and activity.

In like manner, many of the more remarkable botanical theories, propounded within the last few years, have been but the expansions of the original ideas briefly expressed and put forth without parade in the scattered memoirs of that great living botanist, of whom England should be so proud, who has been hailed from afar—the whole botanical world approving—with the well-earned title of “BOTANICORUM FACILE PRINCEPS.”

The three phases of botanical science displayed in its history, OBSERVATION, CLASSIFICATION and PHILOSOPHICAL INVESTIGATION, are the types of the stages through which

\* Phil. Bot. p. 301. Metamorphosis Vegetabilis.

we must successively pass in the course of our botanical studies. The student must base his science on a correct acquaintance with the forms and structures of plants, and the phenomena of vegetation considered in reference to the vegetable kingdom alone. He must then become familiar with the various families, orders and classes into which the genera and species of plants are grouped; and lastly, having acquired the necessary preliminary knowledge, he is prepared to enter upon the philosophy of the science, the inquiries involved in the subjects of morphology, teretology, anamorphosis and distribution. Yet, though these most interesting departments of botany cannot be fully comprehended until the preliminary knowledge of structure and forms is acquired, the interest they give to the drier inquiries is such, that while the connected theoretical consideration of them must be reserved for the final portions of the Course, I shall make a point, when treating of the facts of physiological and systematic botany, of exhibiting, in all possible cases, the bearings of the latter on the higher departments of botanical science.

In conclusion: whatever the ultimate view of the student respecting the intention of his botanical studies may be,—whether to enter upon them as exercises for the training of those faculties which are afterwards to be applied to professional purposes; or to engage in them with a determination of pursuing botany as a science, and, in the end, developing its laws; or to gain an acquaintance with its facts in order to lay up an intellectual treasure for future hours of recreation or study in a life of business or leisure,—I would remind him earnestly to bear in mind, at the same time, the more serious benefits which may accrue from the study of Botany. That which Lord Bacon said of all knowledge is especially true of this department, that it “is not a couch whereupon to rest a

searching and restless spirit ; or a terrae for a wandering and variable mind to walk up and down with a fair prospect ; or a tower of state for a proud mind to raise itself upon ; or a fort or commanding ground for strife and contention ; or a shop for profit or sale ;—but a rich storehouse for the glory of the Creator and the relief of man's estate.”

THE END.





2

ADDRESS

OF

FRANCIS LLOYD, ESQ.,

(VICE-PRESIDENT)

TO THE

WEST LONDON LITERARY, SCIENTIFIC, AND  
MECHANICS' INSTITUTION,

MANOR HOUSE, KING'S ROAD, CHELSEA,

AT THE

CLOSE OF THE FIRST LECTURE SESSION TERMINATING

MAY 21, 1847.

LONDON:

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1847.

WEST-LONDON

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## WEST-LONDON

# LITERARY, SCIENTIFIC, & MECHANICS' INSTITUTION,

MANOR-HOUSE, KING'S ROAD, CHELSEA.

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THE first session of this newly formed and very successful institution closed, on Friday, May 21, 1847, with a musical entertainment. The handsome lecture-hall was crowded with ladies and gentlemen, influential inhabitants of Chelsea and Brompton. After the performance of concerted pieces by gentlemen amateurs, members of the vocal and instrumental classes—with madrigals, quartets, including a solo on the harp by Mr. Streather, and songs by Mrs. Newton and Miss Ward—the Chairman, FRANCIS LLOYD, ESQ., delivered the following address:—

“It would not be seeming to allow this our first session to close, and I am sure you will say, so agreeably to close, without offering a few remarks. Having had so short a notice, ladies and gentlemen, to consider my address to you on this occasion—in fact, it was not until this evening that I knew for certainty who would fill the chair—I am ill able to perform its duties. I had hoped that the Rev. Dr. Wilson, or another of our Vice-presidents, would have been present, whom you would have been better pleased to hear than myself. I am, therefore, quite unprepared to say what our first and very instructive course of lectures demands at my hands. This is Epsom week, too, you know. Wednesday was the Derby and to-day the Oaks meetings; and I confess to having been carried with the stream, on this general metropolitan holiday, to enjoy the scene presented in those beautiful downs, from which landscapes of unsurpassing beauty and extent charm the eye at every turn; unmoved, however, by the

‘Hopes and fears that kindle hope,  
An undistinguishable throng,’

that throw thousands into such a fever of excitement at this season, but to regard with the deepest interest the greatest social solecism of artificiality presented within the year—crowned heads and calculating citizens, richesses and dames of every condition, legislators, judges, poets, and philosophers absorbed in one object. I was pleased to be kept in countenance by the presence of several members of this institution, whom I received enjoying themselves in their carriages with their families in the bright breezy air. Like myself, they had no bets on the struggle, but, like myself, found food for reflection in the scene.

“It is scarcely a twelvemonth since we met together in this room to solve that such an institution was needed in Chelsea; and here we are, well-blown and thriving. Mr. Warburton, M.P., was our chairman on that occasion; and I think his prognostications of success were not exaggerated.

Our call upon you has been warmly, I may say enthusiastically, responded to. You feel how desirable it is in these early days of our social combination—for we all must acknowledge Chelsea is bursting into new life and taking its stand amongst the cities and towns of the British empire—that we should have some neutral ground, restricted to no condition, sacred to no class, sacred to no denomination, but where all can equally, at all times, meet together without any restraint, save those of our self-respect, without any laws save those of good manners, for the salutary and noble purpose of acquiring, in the first place, useful information; in the next place, of gaining proficiency in any accomplishment; or, in the last place, of partaking in innocent recreation. I think that, in a community like ours, it is desirable not only to provide facilities for your becoming proficient in study and in the acquisition of useful knowledge, but also to provide means for enlarging the sum of human cheerfulness and recreation. It is a high pleasure, indeed, to find such numerous attendances at our institution—that you come to our library, to our lecture-rooms, and to our classrooms. At our commencement, Dr. Buckland, the learned and truly venerable Dean of Westminster, condescended to pronounce an inaugural discourse. We cannot too highly appreciate his kind notice of us. It was not to extend his influence or exhibit a patronising spirit. It was not to make greater his great reputation as a cultivator or propagator of science, or to convince us of his benevolence and universal philanthropy. This great divine knows that he is best fulfilling his mission on earth in teaching the greatness of God by a true knowledge and searching investigation of His works. It is in the fulness of his gratitude to our Creator for the immensity of His goodness in the beautiful system of the universe, that, even as his years increase, so do his anxieties to make them better understood. He is not one who fears anything from the spread of light amongst the beings to whom the Almighty has given powers to understand His works. To talk of limiting human knowledge is impious: all that we, step by step, acquire, in every branch of moral or scientific nature, is meant for us to know; and cowards—nay, traitors—are we to our destinies to shrink from the exercise of every faculty of thought. Heralded by so safe a guide as the Dean of Westminster, let us never cease from examining the wonders of creation, or from raising our admiration from Nature up to Nature's God! I always was of opinion that we could not commence too early with the *principia* of science. Clear notions early impressed are with difficulty effaced. Had I no predilections in favour of universal education, I must have learnt its absolute necessity for the well-being of a community so complicated in its interests as is the dense population of this kingdom by what has been daily painfully before me, when engaged magisterially in the police-office of a large manufacturing town. My experience leads me to say, that the more general education spreads, so has crime diminished. The town I mean—Birmingham—is, from that very reason, the best ordered of any of a similar size in the kingdom. It is nearly twenty-five years since I happened to be in the chair at the first meeting in that town to establish a mechanics' institute like ours. It commenced; and about six years since did me the honor of electing me its president. It has had to struggle with difficulties and discouragements; but the indomitable resolve of the working classes to acquire a knowledge of the liberal arts still maintains it under the name of the Polytechnic Institution. The same class of gentlemen here, such as the present and late mayors of that town, who take active parts in its management, support our institution; and we have encouragement from the fact that our income, from subscriptions alone, already exceeds that of this older one by £100;

and *cæteris paribus* is not behind those of even Liverpool, Manchester, and Leeds.

"It has been my lot during the past year frequently to preside at your council, and a more unwearied, persevering, judicious body of gentlemen, I really believe has been seldom united for any object. To Mr. Whitehead we are particularly indebted, for he placed his house at our disposal for meeting before we acquired our present commodious premises. Amongst those members of the council who have never been absent when anything essential to your welfare was to be arranged, I have always noticed the Rev. Dr. Wilson, by whose able advice as a preceptor we have much benefited, Mr. Bull, the Rev. E. Rudge (who kindly gave us a very interesting lecture at a moment's notice, when disappointed in the regular course), Mr. Jeffree (our worthy churchwarden, whom you all have seen most indefatigable, and, knowing the value of time himself, collected a subscription, to which we owe our handsome clock), Mr. Jones, Mr. Barnes, Mr. Cornell, Mr. Druce, Mr. Batcock, Mr. Firby, Mr. Baker, Mr. Symons, and I could name other influential gentlemen, but it would be invidious to say more. Our present prosperous state is the best voucher for their attention to our interests. Every metropolitan district has now similar institutions; and, though we number, in connection with Brompton, about a hundred thousand inhabitants, as yet we have had no focus for concentrating our moral and social powers, or knowing what they are. I consider it a privilege to have been associated with you in your early struggles, rather than to have joined you when you have accomplished your destiny, and have become vigorous, rich, and powerful. I would rather be able to say to you (as Mr. Dickens said to the Birmingham Polytechnic Institution, which assimilates in its objects and history to ours), 'I knew you in your swaddling clothes; your two elder brothers had drooped and died' (one in Pimlico and the other in Cadogan-place); 'their *chests* were weak; about your cradle nurses shook their heads and gossips groaned; but up you shot space—up, up—indomitable in your constitution, strong in your tone and muscle, well knit in your figure, steady in your pulse, and temperate in your speech, and of good repute in all your doings, until now you have grown a giant.' Chelsea is in my mind associated with giants of literature. Here, on the banks of our noble river, were the Tullian villas of scholars and philosophers. Here—

'Where glides the silver Thames along,  
His silent winding way'—

lived Sir Thomas More. Here Erasmus visited him, and of whose visit to the domestic circle of the great chancellor he has left so charming an account, albeit rather hard upon our pretensions to classical literature, which, he says, '*Vix tenuis odor in Angliam demigâret.*' His house was the resort of the most ingenious of that age. There (not a hundred yards from this spot) would that brutal and unaccountable monarch, Henry VIII, visit and dine with him; and even used, as Roper informs us, to ascend with him to the house-top, to observe the stars and discourse of astronomy. 'A house,' says Erasmus, 'in which every one studies the liberal sciences; where the principal care is virtue and piety; where illness never appears; where intemperate language is never heard; where regularity and order are prescribed by the mere force of kindness and courtesy; where every one performs his duty, and yet all are so cheerful, as if mirth were their only employment. Such a house ought rather to be called a practical school of the Christian religion.' Sir



Hans Sloane was afterwards the possessor of the same house. He, you know, was a very learned and indefatigable pioneer in science. He succeeded Newton in the chair of the Royal Society, and was President of the College of Physicians, to whom he presented the ground of the garden of the Apothecaries' Company, adjoining the Military Hospital. In the hamlet of Little Chelsea resided Sir Bulstrode Whitelock, Mr. Pym, the celebrated member of the Long Parliament, Bishop Fowler, Sir Robert Walpole, Sir Richard Steele, Dr. Meade, Addison, John Locke, Dr. Smollett; and Dr. Swift resided, as he tells us, in his letters to Stella, for some time in Chelsea. Queen Elizabeth received her education at a palace the site of Cheyne-walk. Our President (the Earl of Cadogan) derives his descent and valuable estates in Chelsea (I believe most of us are his tenants) from Sir Hans Sloane; and I doubt not, with the gallantry and liberality that distinguish his profession (the navy), will lend a helping hand to our institution, which his lordship may, I think, be proud to see rising on his property, and certainly not decreasing its value. The rector of this large parish, as well as the rector of Upper Chelsea and the vicar of Brompton, are associated with us as Vice-presidents; amongst whom are two names well known to science—Captain Smyth, R.N., F.R.S., and Major Shadwell Clerke, F.R.S., with Dr. A. T. Thompson, the learned author of the 'Conspectus of the Pharmacopœia,' and Dr. Chambers.

"The changes witnessed in the face of the country within the time of two not very old men are more than likely to be surpassed during the same future period; and this institution may influence the nature of that progress to a great degree. On this very spot where we now assemble (a handsome street surrounded for miles by houses), not longer since than this period, was the Earl of Peterborough stopped by highwaymen, in what was then a narrow lane; and the robbers, being watched by the soldiers on guard at the gate of the college, were fired at from behind the hedge. One of the highwaymen was a student in the Temple, named Brown, whom Mr. Vernon, the Secretary of State, in a letter to the Duke of Shrewsbury, says, 'a friend of his (Sir John Talbot) knew well; and his father, losing his estate, Mr. Brown lived by play, sharpening, and a little on the highway.' You may see this anecdote and others, portraying the manners, modes of thought, and occupations of society, from the Revolution of 1688 to the death of George II, in a very interesting work, now on our shelves, by Mr. Jesse. I think the part we are attempting to play, in carrying onward the great work of social development, cannot be wrong if it only causes the possibility to be more remote of our parish being again favoured by gentlemen of the Temple for such recreation.

"The numerous attendance of ladies at our lectures (some fair faces I have never missed a week since the commencement of the session) is a bright augury of success. We know that we have but to present objects suitable to their tastes and competent lecturers, to ensure a full attendance of ladies. When I say objects suitable to their tastes, I am pre-opining what I should find it hard to define. There are persons who make objections to communicating a greater share of knowledge to women than commonly falls to their lot at present; though I take it for granted that Nature has been as bountiful of understanding to one sex as to the other. That there is a difference in the understandings of the men and women we every day meet with, everybody, I suppose, must perceive; but there is none, surely. May not this be accounted for by the difference of circumstances in which they have been placed, without referring to any conjectural difference of original conformation of mind? As long as boys and girls run about in the dirt and trundle hoops together, they are both

precisely alike. If you catch up one half of these creatures and train them in a particular set of actions and opinions, and the other half to a perfectly opposite set, of course their understanding will differ, as one or other of these occupations has called this or that talent into action. 'There is surely no occasion to go into more abstruse reasoning in order to explain so very simple a phenomenon. There are some who cannot bring their minds to consider an extension of knowledge to ladies, without connecting it with some sensation of the ludicrous; but such should remember that from progress from absolute ignorance there is a period when cultivation of mind is new to every rank and description of persons. A century ago, who could have believed that country gentlemen could be brought to read and spell with ease and accuracy, or that they could be carried up to the elements of ancient and modern history? Nothing is more common or more stupid to take the actual for the possible—to believe that all which is possible is all that can be; first to laugh at every proposed deviation from practice as impossible, then, when it is carried into effect, to be astonished that it did not take place before. It is said that the effect of knowledge is to make women pedantic and affected. All affectation and display proceed from the supposition of possessing something better than the rest of the world possess. Nobody is vain of possessing two legs and two arms, because that is the precise quantity of either sort of limb which everybody possesses. Who ever heard of a lady boast that she understood French? For no other reason that I know of, but because everybody in these days does understand French; and though there be some disgrace in being ignorant of that language, there is little or no merit in its acquisition. Ladies bend their attention to more acquirements than they did a century ago; but they are no less remarkable for attention to the arrangements of their household, no less inclined to discharge the office of parental affection. The same objection has been made at all times to every improvement in the education of both sexes and all ranks, and been as uniformly and completely refuted by experience. There is in either sex a strong and permanent disposition to appear agreeable to the other; and this is the answer to those who are fond of supposing that a higher degree of knowledge would make women rather the rivals than the companions of men. Presupposing such a desire to please, it seems much more probable that a common pursuit should be a fresh source of interest than a cause of contention. Indeed, to suppose the opening sources of information in literature and the sciences to ladies can create a general jealousy and rivalry between the sexes is so very ridiculous, that it requires only to be stated in order to be refuted. The same desire of pleasing secures all delicacy and reserve which are of such inestimable value to women. The female understanding is capable of appreciating the highest and best objects; and all affectation, charged by unthinking persons on female knowledge, is best cured by making that knowledge more general. In Lord Jeffry's review of the works of Felicia Hemans, he wisely and justly says, 'When women have turned their minds (as they have too seldom) to the exposition and arrangement of any part of knowledge, they have commonly, we think, exhibited a more beautiful accuracy, more complete justness of thinking, than their less discriminating brethren.' If ladies habituate themselves to attend to dignified and important subjects, are we not multiplying beyond measure the chances of an improvement, by preparing and medicating those early impressions which always come from the mother, and which, in a great majority of instances, are quite decisive of character and genius. Nor is it only in the business of education that women influence the destiny of men. If



women knew more, men must learn more; for ignorance would then be shameful, and it would become the fashion to be instructed. 'Il y a une galanterie spirituelle aussi bien qu'une sensuelle,' says Nicolle, one of the most learned and pious solitaries of Port Royal. The attendance of ladies at the lectures delivered in this hall improves the stock of national talent, and employs more minds for the instruction and amusement of the world. It increases the pleasures of society, by multiplying the topics upon which the two sexes take a common interest; and makes marriage (with such as have that advantage over me) an intercourse of understanding as well as of affection, by giving dignity and importance to the female character. 'Il ne suffit pas que l'artiste soit préparé pour le public, il faut aussi que le public le soit à ce qu'on va lui faire entendre.' It is of great importance to a country that there should be as many understandings as possible employed within it. Mankind are much happier that such men as Pope, Milton, Shakspeare, and Scott have lived, and that scientific men have invented barometers, thermometers, steam-engines, and telescopes. This place has been, and still is, the residence of some of our most illustrious countrywomen: Miss Landon was educated here; Mrs. Hall, the charming writer of Irish tales, and Mrs. Somerville, whose astronomical investigations have been surpassed by none of this age, reside amongst us.

"When we see that Chelsea is becoming vast, populous, and full of active life—and we know that every extensive community depends for its material prosperity on the successful cultivation of science, arts, and devotion to moral and religious duties—we must feel that no community more strongly demands from the wealthy and influential every support, every encouragement.

"This institution does not owe its origin to the hot-house influence of the wealthy and the powerful. Its founders are its own industrious, intelligent, and meritorious members: men with the most praiseworthy aspirations after all that is good, useful, and honourable. The natural wants of society have given it birth; the just claims of society demand that the wealthy should foster and support it. If our institution fail, if it fall from an internal weakness, paucity of members, mismanagement, or any other similar cause, shame and blame light where they ought, on the heads of those who, with experience to warn them and every support to encourage them, alike neglected and despised both! But if it fail from want of the support that the rich only can afford to extend to it—if the cry for education be met with coldness, or indifference, or opposition—then, gentlemen, I say it most emphatically, wealth will have forgotten one of its noblest, one of its most imperative, duties. But I will not anticipate the result. I believe there is in Chelsea an ardent devotion to the cause of education, so as to leave no doubt but its inhabitants will rally round us—ay, gentlemen, if for no other reason than to show that, amid all the heart-burnings of party strife, there is some neutral ground, there is one hallowed spot where discord cannot come, where our only contention will be how we can best prove our gratitude for the boundless benevolence of God, by promoting the virtue, the happiness, and the welfare of His creatures.

"If people are ill-disposed and mischievous, surely that is the best reason that can be offered for teaching them better; and if they are not, surely that is a reason for giving them an opportunity of vindicating their reputations, and they cannot have a better one, I think, than the opportunity of associating together, voluntarily, for such high purposes as it is proposed to carry out in the West London Literary and Scientific

Institution. In any case, if you would reward honesty, give an encouragement to the good; if you would stimulate the idle or correct the bad, education, comprehensive, liberal education, is the one thing needful, and the one effective end; and, if I may render into plain prose some words of Hamlet, not with reference to any government or party (for party, being for the most part an irrational sort of thing, has no connection with the subject in view), and if I may apply those words to education founded on these great principles, as Hamlet applied them to the skull of Yorick, I would say, 'Now hie thee to the council-chamber, and tell them, though they lay it on in sounding language and fine words an inch thick, to this complexion they must come at last.'

"Can there be a difference of opinion in this meeting, that education, in its most comprehensive form, is at once a never-failing source of individual happiness and the surest foundation for national greatness? These institutions are, in the language of Dr. Lankaster, in this room, 'the colleges of the middle classes.' Let us direct the youth of Chelsea to the portals of our institute, and say to them, slightly transposing the words of the elegiast,

'For knowledge to thy eyes her ample page,  
Rich with the spoil of time, shall here unroll,  
Nor penury repress thy noble rage  
Or freeze the genial current of the soul.'

In fact, the youth of Chelsea have come to us with eagerness and crowded to the classes we have formed. That for vocal music is under the superintendence of Mr. Walter Johnson; for French, under Mons. Wattez; for architectural drawing and perspective, under Mr. T. W. Guilloid; for landscape and figure drawing, under Mr. Varley; for arithmetic and elementary mathematics, under Mr. Hall; and a class for elocution and discussion meets weekly, when I have heard addresses from young men that would receive applause in the British parliament. I had the pleasure of presiding at three adjourned discussions on the question of abolition of the punishment of death, and was much gratified at the talent shown in debate by the young gentlemen of the class. The subscriptions to these classes is almost nominal: but two shillings a quarter, with first-rate instruction.

"In the pursuits thus suggested to you, we would mingle the *dulce* with the *utile*; and, with Tranio to his friend Lucentio, who, you may remember, came to study at Padua—the Chelsea, we will suppose, of Lombardy, 'the garden of fair Italy'—say to you,

'Glad that you thus continue your resolve  
To suck the sweets of sweet Philosophy;  
Only, good masters, while we do admire  
This virtue and this moral discipline,  
Let's be no stoics, nor no stocks, I pray;  
Or so devote to Aristotle's checks  
As Ovid be an outcast quite abjured.  
Talk logic with acquaintance that you have,  
And practise rhetoric in your common talk;  
Music and poetry use to quicken you:  
The mathematics and the metaphysics,  
Fall to them as you find your stomach serves:  
No profit grows where is no pleasure ta'en.  
In brief, sirs, study what you most affect.'\*

\* *Taming of the Shrew*. Act I, sc. 1.

This is friendly counsel; and the performance we have this night enjoyed, and expect to enjoy, proves that music has not been studied in vain. The strains we have had from Mr. Streather might take Mr. Jones and myself, who have some Welsh blood in our veins, back to the times of

‘Highborn Howel’s harp;’

whilst I can assure Mr. Jones, Mr. Renshaw, Mr. Mansell, Mr. Kemp, Mr. Ascroft, Mr. C. Lahee, and Mr. H. Lahee, that I listened with unmixed pleasure to their performances on the violin, viola, flute, and violoncello; though the rich flow of harmony from Beethoven’s famous quartet, played by Vieuxtemps, Delofree, Hill, and Piatti, at the musical union, is fresh in my ears. If such be the proficiency attained by barely a year’s practice together, we need not leave Chelsea to seek elsewhere for amateur excellence in this charming art. In the drawing class there is encouraging progress, and by the next anniversary we shall have specimens of your performances. Hesiod says wisely,

Ὅς δεῖχε μήτ’ αὐτὸς νοεῖ, μήτ’ ἀλλὰ κεινὸν  
 Ἐν θυμῷ βαλλήσθαι ὅδ’ αὐτ’ ἀχρηστὸς ἀνιρ,

which we may translate,

‘To little honour can that man be brought  
 Who’s neither wise nor willing to be taught.’

Herc, I am delighted to say, you are all wise enough to be willing, and willing enough to be wise.

“To aid this endeavour, Mr. Parsey made arrangements with various professors; and to his judgment in the selection we owe whatever pleasure we have enjoyed in listening to them. Those lectures have purposely not been of that severe cast which more matured members of a longer established institution would naturally desire to hear. Supposing that most of you had acquired some elementary knowledge of natural philosophy, the first lecture of the session was ‘chemistry.’ Chemistry is so closely connected with natural philosophy, that the study of the one must be incomplete without some knowledge of the other; for it is obvious that we can derive but a very imperfect idea of bodies from the study of the general laws by which they are governed, if we remain totally ignorant of their intimate nature. Of course, one lecture could effect no more than afford a general idea of the value of the science. We shall have others from Mr. Griffith, the accomplished Chemical Professor of St. Bartholomew’s Hospital, on the same subject. We fully intend to make you acquainted with the principles of the wonderful agencies of steam, electricity, and explosive power. With a little costless hot water we can be propelled upwards of eighty miles an hour in a comfortable carriage, and, during the time we have been in this room to-night, journeyed from this metropolis to Liverpool. By the second, we can

‘Speed a thought from Indus to the Pole,’

and outstrip the hitherto unsurpassed swiftness of steam communication. The third result of the spirit of investigation of the present age has, I trust, a higher moral destiny. Every improvement in science involves considerations of the highest importance to the welfare of the human race; a proximate cause of these discoveries being in a great measure the extinction of the calamity of war. Its chivalry will indeed then have departed, and the contest, so long as it remain, will have none of those brilliant episodes of human action which are the *ignes fatui* of hero-worship. No more



'An iron harvest on the field appears  
Of lances, burnished shields, and bristling spears;'

or,

'The various glories of their arms combine,  
And in one fearful, dazzling medley join;  
The air above, and all the field beneath,  
Shine with a bright variety of death.'

Science goes on sharpening the mystery of murder, until wholesale destruction loses its cruel charms from their very want of excitement. The experiments made and making on that useful article cotton prove that, after contributing so largely to the national prosperity in times of peace, it is likely to play a very conspicuous part in the strategies of war. I only hope that the inevitable nature of its powers of destruction may deter us from using it for such a purpose. The days are fleeting fast for awarding the highest honours to the destroyers rather than to the preservers of our species—for bestowing baronetcies on rocketmakers and peerages on the fortunate leaders of strife. The days are going when the deeds of demons shall have sympathy in a civilised age. The Fredericks of Prussia, the Charles's of Sweden, the Louis's of France, or her greater scourge, Bonaparte, may never more be seen, if the propensities of the brute be held in less estimation than the faculties of the accountable being. The plunge of the piston will then excite more truly patriotic fervour than the ring of the ramrod; and the harmless gusts of dissolving steam than the sulphurous suffocation of deadly explosions, that now find favour in the ears and noses of heroes.

"The favour accorded to dramatic readings has induced us to make them rather a frequent feature; they will continue to be so. Dr. Lankaster's lectures on the natural history of plants yielding food have been well worthy of the attendance and interest excited. We heard, and perhaps too much for some of our cherished predilections, rather astonishing news of our everyday acquaintance. We had hitherto thought, when we had traced our baked, boiled, roasted, and toasted to the simple elements of meat, earths, fruit, vegetables, and water, that we had got to the root of what we ate and drank. Dr. Lankaster told us we had not begun our inquiries at all, and proved to us we had been digesting fifty-five elementary bodies, partaking of five great elements, all the while, carbon, hydrogen, nitrogen, and oxygen entering into the composition of all plants; that we are indebted to the phosphate of lime in oats, barley, and wheat for their invigorating qualities. We were then set a-thinking about the properties of protein, vegetable and animal fibrine, albumen, and gluten, that exist in our food. In these days, when the selection of articles of food depends as much on our purses as on our appetites, a knowledge of economical proportions of nutriment is of the highest importance to us. Our undue devotion to potatoes has met with sad discouragement; but a more opportune time for inconstancy it were impossible to find. Whilst eating every pound of potatoes we are drinking three quarters of a pound of water, about a quarter of a pound of starch, less some fraction of an ounce of fibrine; though it is but poor comfort to tell us that there is more nourishment in two pounds of wheaten bread than in fourteen pounds of potatoes, now that two pounds of best bread cost sevenpence. However, it is well to know how to economise sustenance; and it is a duty to practise the knowledge we have acquired. Fourteen pounds of potatoes, at their present retail price of twopence a pound, cost two shillings and fourpence, and is three times dearer food than the best bread. Some little cherished kindness for cocoa, sago, tapioca, arrow-root, and chocolate has also received a damper.

However, the sugar, being in high favour with the doctor, can be added with the wine or syrup, and may still keep up our faith in their strengthening qualities. We can endure all these reflections for the handsome things he said about tea. I, for one, since the doctor's lecture on the twenty-ninth of January, have taken industriously to tea. The thein is an acknowledged component, containing one of the four requisite elements of all food in very respectable proportion. We shall hope to enjoy Dr. Lankaster's instructive lectures again in the next session.

"No man of science could acquit himself more admirably on such extremely delicate and difficult ground as anatomical inquiries, before a mixed and unlearned audience, than Dr. Pettigrew. Though in considerable practice, and incessantly occupied as lecturer on anatomy at St. George's Hospital, in the handsomest manner he gave us gratuitously three very interesting lectures, on the eye, on diseases of the skin, and on the ear. The happy manner in which his clear explanations were communicated we all remember, and shall hope to hear repeated.

"To Dr. Anthony Todd Thompson we are particularly indebted for three lectures enriched by the long experience of his useful life.

"Fortunate in claiming amongst our members the eloquent Mr. George Thompson, we have listened with delight to three most interesting lectures on the history, manners, resources, and religion of our Indian fellow-subjects; and we are promised another by the same gentleman. These, with the use of his valuable maps and drawings, have been given without any charge to the society.

"I say thus much on the leading features of the past year, as the attendance at the general meeting was slender. You were all satisfied, I presume, with what you had seen and heard, and expected to have a detailed report sent you to peruse at leisure. That report you will have. You will perceive that our outlay is small in proportion to the number of lectures given—the library we have on the spot, consisting of about five hundred volumes—the library of which we avail ourselves (consisting of twenty-five thousand volumes in all the European languages—the reading-room, on the tables of which are found seven daily papers, six weekly ones, with sixteen leading reviews and magazines. This is open from an early hour in the morning to late at night. When we consider the beauty of this lecture-hall, its central position, and the commodiousness of our house, we have much reason for congratulation; and when I tell you that for all this and for unwearied attention to every contingency that arises in the maintenance of our institution, we are indebted chiefly to our honorary secretaries, Mr. Parey and Mr. Lahee, you will agree we have incurred a heavy debt of gratitude to those gentlemen. Their names, I am sure, will always be held in affectionate remembrance by us all.

"I trust we shall not be long without a local museum, formed according to the peculiar dispositions and opportunities of our members. Whilst one party or individual is engaged with local mineralogy or geology, another with local natural history, a third with local antiquities, a fourth is occupied with local statistics and economics; and all, more or less, pass through a course, of all others, to themselves and to their districts, the most beneficial—a course of thorough study of those very matters in which, one way or other, they are for the rest of their life most likely to be engaged. In the mean time, the collection proceeds without drawing on your purses—the materials are found in your daily walk. Where communication is so easy and science ready to avail itself, at the earliest notice, of every discovery, the more complete these museums, the quicker must be the general progress of all science. What a traveller looks for (as Mr. Wyse well observes,



in the second volume of 'The Central Society of Education'), on arriving at a town, is not what he has left behind him at another—not indifferent duplicates of the great collections of the larger towns—but what is special to the town itself. We had not opened our doors a month, before one of our most esteemed patronesses (Miss Horne) presented us with a handsome box, made from a cedar-tree, of considerable local interest, planted by Sir Hans Sloane. I would mention that we have plenty of room for gifts. Every one of you, however restricted his sphere, can contribute his quota to the stock, and, as far as in him lies, and often beyond what he can easily imagine, assist in forwarding the progress of science.

"Our library consists already of five hundred volumes, many purchased, but mostly the gifts of Mr. Whitehead (the entire set of *Encyclopædia Britannica*), Captain Smythe, R.N., F.R.S., Messrs. C. Greetham, George Thompson, T. J. Faulkner (our local historian and antiquary), J. K. Chambers, E. O. Symons, J. Jones, Rev. Dr. Buckland, C. Pycroft, T. L. Jeffree, Rev. E. Rudge, J. P. Hall, Rev. Dr. Wilson, J. H. Kaye, J. H. Prachell, C. S. Varley, J. Law, W. Gosling, C. E. Green, J. W. Gilbert, H. A. Fawcett, J. Fuge, W. Long, C. Lahee, J. M. Loveland, J. Watts, Miss C. Lake, Miss Whitehead, and music by Messrs. J. P. Evans and R. Mansell.

"Our present number of subscribers, whether annual, quarterly, or ladies, amounts to upwards of four hundred, and increases each week. At the first anniversary dinner of the institution, the sum of £52 was contributed by friends and members. I had the pleasure of inviting Colonel Wood, one of the members for this metropolitan county, to preside, which he did very efficiently, expressed his warmest wishes for our future prosperity, and confirmed his good will by a substantial proof of it—a donation of ten guineas. His noble colleague Lord Robert Grosvenor showed also a like kindly and generous disposition to assist our object; for, after a conversation I had with his lordship at his house about it, he presented me with a cheque for a like amount. I am much gratified to mention Lord Morpeth's reply to an application I made to him. We certainly have no claims upon a nobleman of his high position as a cabinet minister, and entirely occupied with the important duties of his department, and knowing the calls he so liberally responds to in the county he represents in Parliament. Having lately had the honour of dedicating a slight historical work to his lordship, I ventured to state how warmly I was interested in the prosperity of this institution, and how highly we in Chelsea should appreciate some slight token of his lordship's good will; which was answered by a note, enclosing a cheque, with his best wishes for our success.

"Chelsea expects much from the noble lord, and I fully believe she will not be disappointed. We are aware that the department over which the noble lord presides stands pledged to improvements in this neighbourhood, vaster in their extent than any it has undertaken since the conversion of the Marylebone fields into Regent's Park. We have every reason for congratulation that a nobleman so distinguished for his enlightened taste, discrimination, truly patriotic views, and, 'last, though not least,' for his efforts in the cause of education, presides over the board of metropolitan improvements. I trust the noble lord will long continue to enjoy the confidence of his sovereign, and we may then speedily realise the enjoyment of Battersea Park and a continuation of the terrace from Cheyne-walk to the new palace of Westminster. I read with pleasure his lordship's addresses at similar meetings to this, of the Bradford, Leeds, and Sheffield mechanics' institutions, and we should do wisely to profit by his suggestions for their

management. As I said before, we are at this time peculiarly fortunate in having a nobleman who has testified an interest in our young institution, chief commissioner of crown lands; his interest in what all admit will prove conducive to the intellectual advancement of Chelsea, convinces us that the improvements I have alluded to for its ornament, as well as for its health, will be carried out to the fullest extent permitted by the legislature. Let Lord Morpeth carry out the plans he has at heart, and let the legislature support them, and no minister will be remembered with more gratitude to latest posterity. May we live to see this terrace, not taken from useful or profitable occupation, but borrowed from the unwholesome mud shoals of the Thames, planted with rows of fair elms, a broad carriage-way in the midst, and a water-side causeway for pedestrians, similar to the *quais* on each bank of the Seine, in Paris—a continuation of our own admired Cheyne-walk, in fact, to Westminster-bridge; and mansions, spacious warehouses, and structures of all kinds, worthy of such a river as the Thames, will grow up, as if by enchantment, upon its margin. The huddled sheds and tumble-down tenements, that now shut us from the sight of it, would vanish. Only think what a beautiful sight would be a Cheyne-walk or a Temple-garden, miles in length, opening an avenue of fresh air and a new element of health to the entire population of this vast metropolis, as much a blessing as a beauty! Imagine how much longer we should live, how much more healthy, and, therefore, how much more happy, we should be, if, when wearied with confinement, enfeebled by sickness, or oppressed by toil, we could enjoy in its plenitude the health and pleasure of living by the river side. We have ruthlessly defaced the banks of the king of English rivers:

‘Strange that where Nature loves to trace,  
As if for gods, a dwelling-place,  
There man, enamoured of distress,  
Should mar it into wilderness.’

However, an opportunity for retribution to Father Thames appears at hand, and for redeeming our characters as marrers of Nature for Mammon. The science of sanitary economy is worthy of your consideration, and I trust we shall hear some lectures on the subject, and timely suggestions tendered to the commissioners just appointed under our new local Aet for rendering innoxious the principal gas generated by sewage matter—making the matter itself profitable; considerations highly useful to us in Chelsea, where streets and squares are rapidly covering every yard of ground. Not fifty years ago, for the greater part,

‘Whereupon it stands  
The vacant winds did whistle, and the laughing sunshine  
Sported in wild freedom.’

We shall acquire, too, in our institution elementary science to enable these gentlemen fully to digest plans for the prevention of smoke; for better ventilation and warming of our dwellings; removing the mud-banks that now disfigure the sides of the river, and whence the most noxious exhalations are constantly arising; and, in accordance with the beautiful arrangement of Nature, by which the rejected parts of animal life become the food of plants, and the excretions of plants necessary for the healthy condition of man, I would recommend the planting of every extinct graveyard and open place as thickly as possible with trees and minor plants, so as to provide the lungs of those unfortunates who are compelled to breathe the contaminated air of London year after year with a little oxygen; the want of which the alarming increase of bronchitis so painfully

demonstrates. Permit me to add, how conducive it would be to salubrity were our new houses built with flat roofs, so that a luxuriant growth of plants in pots and boxes might be obtained. Young life, we shall find, can now scarcely be supported, and the mortality of infants has increased to eighty per cent. How beautiful were the cities of old! Superb foliage and flowers were waving on every side. Jonah went through Nineveh, a day's journey. Imperial Rome never contained much more than a million of souls, yet its sanitary precautions were such as we cannot hope to realise for many generations. The utility of institutions like ours will be invaluable if these objects be promoted, and therefore I trust you will not think my digression irrelevant. Our purpose of making this institution an advantage to Chelsea shall, I am determined, be carried out as far as my humble means can contribute; and, with your assistance, success, I may venture to say, cannot be distant—at the same time, I must confess, my object in joining you is in reality a selfish one—sensible of my own great deficiency in elementary science, I would acquire knowledge: we are never too old to learn.

“I will now conclude in the closing words of the report laid before the first general meeting:—‘Finally, the Council of Management would beg to impress on all who have already given their support to this institution, that it has at present only attained its first anniversary, and consequently will for some time require their fostering care; and it is their earnest hope, that, with increase of years, it may acquire an increase of vigour; and, by steadily accumulating the advantages of a more matured experience, continue to deserve and command the sympathy and encouragement of the inhabitants of this populous neighbourhood.’”

Mr. Lloyd resumed his seat amidst much cheering; and the musical entertainments recommenced by the ladies and gentlemen of the vocal music, glee and madrigal, and instrumental music classes; to which Mr. Buckland lent his valuable assistance, singing several of John Parry's popular buffo songs with much taste and humour.

The meeting separated at a late hour, highly gratified with the entertainment provided for them, which reflects great credit on Mr. Charles Mahee, the Honorary Secretary, by whom it was arranged. Such an entertainment was never before given in Chelsea; and all felt, in the words of the Chairman, that a new social existence was called into being in the strict, by the establishment of such a point of union as this institution promises to be.



SENTIMENTS PROPER TO THE PRESENT  
TIMES:

# AN INAUGURAL ADDRESS,

BY THE

**Very Rev. the Dean of Durham,**

DELIVERED AT THE

OPENING OF THE NEW BUILDING

OF

THE GATESHEAD MECHANICS' INSTITUTE,

APRIL 10, 1848.

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GATESHEAD:

PRINTED BY W. DOUGLAS, OBSERVER OFFICE.

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Price Twopence.





## INAUGURAL ADDRESS.

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*Mr. Chairman, Gentlemen of the Committee, and other members of this Honourable Institution,*—Permit me to say that you acted, in my opinion, both with correct feeling and with good sense, when you confided the office of addressing you on this very important occasion to a minister of religion. For you thus took the best means to extinguish what I hope I may call an almost obsolete prejudice against institutions such as ours, namely, that, because they are of a character not essentially religious, and have objects not immediately connected with religion, they are, if not in their intentions, yet in their consequences, dangerous to religion. Now, as to intentions. That I am here now, on your invitation, certainly proves thus much—That you, at least, are desirous to combine the learning of this world with that higher wisdom which shines on us from above. It proves that you have determined, now and hereafter—on this inaugural day, through the generations to come, which will perhaps look back upon this day and celebrate it—associate your perpetuity with eternal truth, and to consecrate your knowledge by your faith. For though, as you may suppose, I have no desire of addressing you now as on a sacred occasion, or of usurping for a moment the office which our excellent Rector performs so ably and so faithfully, yet I have a right to expect some gravity in my discourse—some stature of those spiritual and moral meditations which are vital to the servants of God. That you, then, have sought intercourse with me, will be to every rational man a guarantee for the purity of your intentions.

But as to that more general imputation of evil consequences, which I have referred, I must at once declare that I think it injudicious as it is most false. To say that all progress in knowledge not religious is hostile to religious belief—that to strengthen the intellectual powers is to make men sceptics and rebels—is it not to proclaim that there is something unsound, at least suspicious, in the foundations of that belief? Is it a slander on our faith—is it not an insult on God's revelation—to cry, that the more generally we are instructed and armed, the less probably shall we cleave to it? But this is so. By men of earnestness and gravity it has ever been that natural and scientific acquirements are only subsidiary to the proper comprehension of divine truth, and that the freest exercise of reason best prepares us for its acceptance.

For, indeed, the pursuit of science is no other than the pursuit of truth—pure, naked reality, is the single object of all such researches. And, surely, the mind which has been disciplined to pursue truth under one of its many forms, will be that most likely to adhere to it under every other—to become accurate in the perception of it, and zealous and honest in its investigation. And let us confirm this argument by an example:—Among the most perfect intellects that have yet appeared upon earth, was undoubtedly that of Sir Isaac Newton. And not one of you is ignorant that Newton contributed largely to the support of revealed religion—that to this superior purpose he held his sublime discoveries to be subordinate, and applied to it the spontaneous energies of his mighty understanding. Let us, then, dismiss for ever a notion equally offensive to our reason and our faith, and proceed to topics more immediately connected with the objects of this assembly.

There is one all-comprehensive principle on which God has founded the social system of his family upon earth; and it is this:—That universal benevolence, rightly directed, will produce universal happiness. The partial operation of this principle, though much hindered by human imperfection, may be observed in the success of various institutions, for charitable and literary purposes, by which we are surrounded. The necessity for these is created by our mutual dependence. We are interwoven with each other in everything that we do, in everything that we suffer. We can take no step, either for good or for evil, without contact with our fellows. It is the law of our existence; and it has been imposed on us with this manifest object:—That our common wants may be relieved by our mutual exertions; that our common joys may be enhanced and our common afflictions softened, by reciprocal sympathy; and that we may assist each other in every endeavour for the general improvement of our species.

Yet it does not by any means follow from this that all associations formed with views of social advancement, and with professions of universal benevolence, are fitted to attain their object, or even to promote the particular interests of those who compose them.

There may exist combinations of men holding forth such objects, and even earnestly bent on their attainment, but pursuing them by schemes and theories so fanciful, so like dreams, so far remote from sound reason and practical possibility, as not only to defeat their ends, but to give them an opposite direction—towards ungrounded disaffection and irrational insubordination. By such errors these men would bring about the violent dissolution of the system of society under which they live, without substituting, I say not any wiser, but any intelligible, any possible system in its place. Combinations of this formidable description will not, however, find much favour among a people gifted with the natural sagacity which for the most part distinguishes the working classes of this country, and which will protect them from the contagion of wild acts and absurd expectations, to be followed by most ruinous disappointment.

There may be others, not so dangerous, but of a character at least doubtful—combinations for purposes merely physical—do not mean, intending outrage or any other illegal proceeding, but having some material, some pecuniary advantage in view—seeking, for instance, to secure some fixed, determinate compensation for labour, without reference to circumstances which are never fixed and determinate, but are always changing—a compensation which revolutions in every commercial system may, and must, at certain periods, make it impossible to render. Therefore it may be doubtful, I say, whether such associations tend upon the whole to the benefit even of those who compose them—and if not of those, certainly not of the community at large.

Then wherefore is it that in cases such as these the objects of providence appear to be thwarted, and probable mischief to result, where progress and improvement are intended? It is through the general ignorance—the noninstruction and misinformation of the men of whom such societies principally consist. With specious pleas and popular pretensions they seek *impossibilities*. Under attractive titles, and really many of them with very good designs, they advance to the perpetration of social evils. And why, again I say, is this? It is because their natural good sense has not been taught, nor their reason trained. They are uninformed in the fundamental principles of political, commercial, and industrial economy. They have not capacity to distinguish sound but unpleasant argument from plausible and flattering sophistry. They cannot properly discern between that which is just in principle and capable of execution, and that which is seemingly partial to themselves, but which would really be injurious to all, and to themselves not least of all, if it were not impracticable. Consequently, when times of difficulty arise, they are placed very much at the mercy of a few men of suspicious ability, bold and fluent discourse, and interested designs.

In saying thus much I am sure that you will give me credit for entertaining great respect and the very best wishes for the masses of whom we are speaking. But, indeed, I have no better wish or prayer to offer for them, than that their information may be enlarged and their intelligence enlightened. And therefore it is, that from these considerations I turn with delight to institutions such as this. For they are instruments of advantage unalloyed, as far as I can see, by any evil, or danger of evil; and if they be liberally and judiciously regulated, they may become the means of extending to the very humblest classes the benefits which they need most.

And hence it is that this day is not without importance—that this building is not without honour—not among you alone, who have raised it, and now throng it with an honest and just pride—not only among your associates and your neighbours, but in some measure among the whole body of your countrymen. For it is another mansion set apart for the advancement of civilization. It is another temple dedicated to the improvement of mankind. It is another monument of the triumph of wisdom and benevolence. For, thanks be to God, the truth is now universally accepted, that the growth of knowledge is the

growth of happiness and virtue. And fortunate are you, my younger friends, that your lot has fallen on an age in which that truth is thus accepted. You have not witnessed the opposing struggles of prejudice and bigotry. You have not beheld the spirits of darkness in possession of half the sky. You have not contended against the expiring rage of intolerance and tyranny. The battle has been gained for you by the brave and good men of the generation which is now passing away. It is your easier task to gather up the spoils which they have left you; or, let me rather say, to cultivate the boundless territory which they have won for you—to enrich it by the fruit of your own labours, and to transmit it in multiplied fertility to the generations which are to follow. But in your glad and peaceful prosperity you must not forget the names of the men who have fought this fight—but rather cherish them, and lay them up among the great benefactors of mankind. And if you would erect to their glory the memorial which they will value most, present to them, not a monument made with hands, but a spiritual and imperishable offering:—offer them qualities of progressive excellence in yourselves—offer them a purer morality, more deeply rooted piety, more generous principles of conduct, loftier hopes and aspirations, a more fervent and comprehensive charity.

And now, let us say a few words on this subject of popular education, to the immense importance of which this nation is at length awakened from its long and discreditable indifference. In the first place, we must not be surprised that various and even discordant opinions have arisen in regard to it, and have been urged by their respective advocates with much warmth. It was impossible that so complicated a question—involving such great interests, and so many probabilities and contingencies, extending through all futurity—could be discussed by a thoughtful, independent, and free-speaking public, without much variety in the views even of the friends of the cause. I shall not now invite your attention to any of those views; but I will place before you one consideration, which has not been so frequently proposed as it deserves, and on which there can exist no difference.

The demand for increased facilities for the education of the children of the working classes has been so loud and so general—the duty, the necessity, of providing those facilities, has been so vehemently proclaimed—the advantages that will spring from them have been represented as so sure and boundless—and all this in language often very indefinite and exaggerated—that it becomes time to address some wholesome admonition to the classes for whom all these efforts have been made. And to this end I shall place this matter before you simply and precisely as it stands. And, first, I must request you to observe, how very narrow are the limits to which this school-education is confined—at how early an age the child is, almost of necessity, torn away from the school, and hurried into the business and handiwork of life. Observe, I repeat, for how very short a space even the most judicious exertions of those who provide instruction for your children can act upon them, and how



anty and imperfect must be the information conveyed to them. Now what results from this? That you are to refuse the good that is offered, because it is not all you want? No! far from this! What then? I will tell you. That you must not trust to those scholastic provisions *alone*. You must not imagine that any efforts of others, whether individuals or governments, can secure to you, or to your offspring, the possession of knowledge, or sense, or any high degree of intellectual or moral cultivation. You must trust to yourselves for that. We can do no more than lay the foundation—the superstructure must be the work of your own hands.

At what age, you hear it asked, does education, in its proper sense, end? At twelve — or thirteen — or twenty? No, no, my friends! The wise man's education ends only with his life. Every day adds some new lesson to the day which has preceded it—if not in the arts, in the sciences—if not in the sciences, in history, geography, antiquities—if not in any of these, in that at least which is more important—in conduct—in the art of walking uprightly before God and man—in the science of moral discipline, founded on religious principle. This, indeed, is what is most essential in the education of the boy; but it can only be made perfect by the spontaneous, self-directed perseverance of the man. Do not deceive yourselves. In throwing open new schools for your children, we profess no more, we can no more, than to sow the mere seeds: they must be nourished and ripened by yourselves—by your own diligence—aye, and by your own sacrifices, too. All that we can do is to supply the means. We arm you with an imperfect weapon, which you may allow to rust and perish if you please—or which you may so mould and sharpen as to turn it into the instrument of worldly prosperity and everlasting good. All depends on the use that you shall make of it. You must not repose, I repeat, on any form of external aid, public or private—but you must throw yourselves on the energies of your own souls, and on the spirit that is within you. Public grants or private benevolence can never impart knowledge, or intelligence, or virtue, to the sluggish, sensual, unaspiring mind. They can, indeed, open to you the prospect of nobler things—they can lend you the wings on which you may reach those higher regions, if you will—but they cannot lift you up from the dull, torpid clay, if, perversely and stupidly, you will lie and rovel there.

If, then, there is not one among you who does not see that this is true, what better course remains for you than to frequent institutions such as this? If *self-education* be that to which you must mainly look for distinction in middle life, and for comfort and respect in your declining years, how wise an act it is in you thus to associate for purposes of self-instruction and mutual instruction, and to apply your voluntary powers to your intellectual and moral elevation! It is here that you will turn to account the rudiments of knowledge which you received as boys. It is within these walls that your reason, curiosity, imagination—which the schoolmaster can do little more than wake and set in action—will be strengthened by the discipline

of good books and wholesome lectures, and by careful meditation on what you read and hear. Thus will you not only preserve all the elementary lessons of your earlier years, but also construct upon them the respectability, the consolations, and enjoyments of after-life.

And you may do still more than this. It is by such studious perseverance as is here within your reach, that the highest achievements of science are prepared; and even from this place may go forth men—like Black, or Watt, or Franklin—to whom I might add contemporary names scarcely less eminent—men who will not be contented to master existing difficulties and acquire known truths, but will enlarge, by new discoveries, the boundaries of human knowledge.

And why not? You possess the means, if you will but use them. God has refused to no man, of whatsoever station, curiosity to seek for information, or power to receive it. But to you, besides, He has given the instruments to acquire it—and, I trust, the disposition to employ them. Here you have access to valuable publications, suited alike to extend your knowledge, to enlarge your intellect, to inform your taste, and to direct your conduct. You may explore the treasures of art and nature, if you will. The secrets of antiquity are disclosed to your investigation. The wonderful book of history lies open before you, wherein you may read the exploits of the mighty spirits of former ages—and so read them as to detest oppression and fraud, injustice, intolerance, insubordination—as to admire and emulate whatever has been excellently and greatly done, for the peace, the freedom, the virtue, the dignity of mankind. In the brighter field of poetry, you will find relaxation from severe mental toil, and gather some peaceful ornaments of elegance and refinement. But, more than all these, the study of astronomy, of natural theology, of natural history, will raise up your minds to the contemplation of those marvellous creations of unbounded Might and Goodness, which, though they do still in some measure partake of the mysterious character of the Power which made them, yet give evidence, clear enough to every impartial and thoughtful mind, that there is a Hand above which controls and regulates all that we see and know—all that we think, and feel, and do—according to the will of a wise and inscrutable Intelligence.

These are the higher descriptions of information to which you may here aspire. But when you descend from them to subjects more confined and practical—as when you investigate the principles of various trades and professions—those, for example, which you may yourselves severally exercise—and when you learn from such study why it is, as well as how it is, that certain results are obtained, so that the work of the hands is guided by the superintendence of the intellect—how great a gain is even this! how profitable in the daily business and intercourse of life! Thus instructed, what an advantage you possess over that more numerous class, it may be of competitors, to whom the mysteries of the operations which they perform are not unfolded, and whose lives are spent in mere manual labour, unenlightened by any comprehension of the reason

rich directs that labour, and of the causes which make it productive.

And besides the profit, there is likewise the pleasure, the pride, of these acquirements. Those among you who have mastered with exertion the principles of some abstruse science which you are interested—as, for instance, the science of chemistry—and then applied those principles to things before your eyes and in your heads—to you I appeal, whether the enjoyment that you have received has not far more than recompensed the toil? And that enjoyment, too, how pure, how honourable, how worthy of a rational soul and an immortal destination! How much more keen as well as pure—how much more deep as well as noble—than those dull sensual gratifications, misnamed enjoyments, which are but too commonly engendered of ignorance, and are the one sad, pitiable source of the unambitious and barren soul! Thus even your recreations—and they are no unimportant element in these discussions—even your amusements are refined and purified from vice, by the same means which improve your faculties and promote your temporal prosperity.

Thus much has been said generally. But as you may expect me to make, before we separate, some reference to your own particular institution, I will do so, at no great length. I shall confine my remarks to two of your regulations—those by which you exclude from your discussions, and most properly exclude, party-politics and controversial divinity.

Yet, in respect to the former of these subjects—politics—I confess it has often occurred to me, that the principles of general politics—which term I use as opposed to the term party politics, and by which I mean those acknowledged principles on which are founded our political rights and our political duties—our proper offices as citizens, as members of the same social community—I have often thought, I say, that these principles ought to fill a more conspicuous place than they do in the education of all classes of the people. Indeed, I do not remember ever to have seen any elementary work so composed as to display a compendious view of those principles; to show, for instance, how a graduated subordination is essential to the existence of every form of society—and how any theory of universal equality in wealth and condition is at variance, not only with reason and experience, but also with nature; which has distinctly laid down the opposite law, and made all men in almost all respects unequal—to show, that inalienable duties are imposed upon all classes, high as well as low, by the same social organization which protects their property and their rights—to point out the mutual relations by which the several classes depend upon each other for their mutual welfare—to make it clear, how any evil which may befall any one of these will sooner or later be largely shared by the others—and how national greatness, and public and private happiness, depend upon the coöperation and concord of all. Now, I think, my friends, that if these principles, which no rational man disputes, and which are in fact at the bottom of all that we call politics, were generally inculcated as a part of education,

we should reap the fruits in some increase of that beneficent use and application of property on the one side, and of that orderly intelligence, that enlightened and well founded contentment on the other, which form together the surest guarantee for domestic peace. This sort of knowledge, if it shall confer power, will confer at the same time discretion in the use of power—it will show the proper objects of power, the proper limits within which power may be exercised. It will teach men their rights, social and political; but it will teach them their duties also—for every right involves a duty, or rather a number of duties—and men are generally much more ready to claim the one, than they are to perform the other. Indeed, my friends, if I were to apply this remark to that description of political right most familiar to you—the right of the franchise—how many are those in this kingdom who exercise the right and neglect the duty; or, I should rather say, never so much as consider or feel that there is a duty—a serious and sacred duty—which, like all other duties, ought to be honestly, faithfully, and fearlessly discharged.

I think that if the above and other similar principles were generally taught and understood, political discussions would rise above the character of party disputes, and might, with propriety and advantage, be permitted. At present you do well to prohibit them.

So do you likewise in regard to the other subject referred to—at least until that promised day shall arrive, of which the very dawn can scarcely be said to have broken on this generation—the day wherein religion shall become a bond of union and a pledge of love, and all the families of the earth shall adore the same omnipotent and merciful Lord and Saviour, in His own spirit of cōarity and peace.

A few parting words to you, my younger friends, and I will release you. You are constantly hearing it said—and, in the main, truly said—that knowledge is power. The meaning of this is, that mind will certainly, step by step, get the better of body—that intellectual force will always, in the end, prevail over physical force—that honour, and prosperity, and authority will rest principally with the best instructed and most enlightened. This is nothing more than the progress of civilization. It is only that the world is becoming wiser as it becomes older, and less barbarous as it becomes wiser. It is no more than the triumph of the worthiest principles of action and the purest principles of nature over the basest and the vilest. Now, it is to you, no less than to the highest orders in society, that the path of this progress, the gates of this knowledge, are thrown open. Much intellectual ability—nay, much refinement and taste for the pleasures of useful speculation—may be combined with hard and humble manual labour:—and so combined with it, as both to augment its produce and to lessen the sense of its severity. Even, I say, in the humblest offices, you may find leisure and means enough to fortify your faculties—the powers by which you perceive, imagine, remember, reason, and feed your curiosity by the acquisition of new and extraordinary facts. Here, where we are now assembled, you may prepare



the great struggle of life which awaits you; and you may qualify yourselves to engage in it, not as in a mere competition for a better physical existence, but with bolder hopes and nobler purposes. Yes! and you may so succeed, my friends, as to rival those honourable men of former times, who, rising from our condition, have achieved some of the brightest results of scientific discovery; and your names, like theirs, may hereafter be repeated by the lips and inscribed on the grateful hearts of a revering posterity.

It is a proud thing to entertain this hope; but there is a still better thing than this—and I should flatter you were I not to say it. It is a prouder and a better thing so to discharge your various duties that you may always carry your own earthly recompense in your own bosom, not despairing of those future rewards which are not of earth. Believe me, my friends, and engrave these words on your hearts, when I declare to you, that the proper end of all human knowledge is, not to adorn the understanding or to raise the reputation, but to enlarge and ennoble the character—to make you honest and upright—to make you fearless of everything but shame—to remove you far away from every imagination of baseness. Whatever is just, whatever is honourable, whatever is consistent with virtue and truth, court and cherish *that*, and uphold the principle in your breasts, as the inflexible director of your actions. And be well assured that the labours which have not that effect, whatsoever seeming success may attend them, will be accounted to you as vanity.

But if you will gather, along with your knowledge, that religious and moral excellence which it is the highest office of knowledge to impart and nourish, then, indeed, will you stand forth as examples for the respect and imitation of those around you. And while you display to them a moral self-control illustrated by habits of virtue, you will possess within you that sense of self-dependence which is the best guarantee for worldly success, and that self-respect which is one of the surest sources of worldly contentment. Being more moral and intelligent as individuals, you will become more patriotic, and at the same time more powerful, as citizens. You will offer inviolable obedience to the laws—you will pay willing reverence to the existing institutions of your country—those, especially, by which the government, civil and religious, is upheld and directed. Of course I do not mean a blind, irrational reverence. You will seek, no doubt, to amend these institutions—to remove defects and blemishes, which, as you may think, disfigure them. But you will not hastily raise your hand to destroy or wound them. For our reading and reflection will have taught you how difficult and uncertain is the work of reconstruction; and how imperfect, after all, have been the best-contrived schemes ever devised by man for the government of his perverse and impatient fellow-man. Of one thing only you may be assured, my friends. As you advance in life and thoughtfulness you will attain a conviction, not perhaps very agreeable to the young and ardent mind, but true—that *there can be no important, and, at the same time, permanent improvement in the social condition of*



*any people, except through the general progress of intelligence and information.* And this conviction will teach you, that in such matters the less violent is commonly the more judicious counsel, and that the soundest result of wisdom consists in moderation. At the same time, it is proper to observe, that many beneficial causes are now working in this country—silently and peacefully working, but for that reason the more powerfully and effectively—which will greatly accelerate the progress of which I spoke; so that you, my friends, even in your generation, need not despair to enjoy new and important advantages and privileges, which the ordinary course of events will surely bring you—unless the detested hand of Discord should interpose, and cut off the blessing.

I spoke of self-respect. While you respect yourselves, you will respect others likewise. Indeed, you will constantly remark that the men who most deserve respect are the most prompt to pay homage to the deserts of their neighbours. To those who, in the usual expression of the world, are termed superiors, you will offer that free and courteous deference which is called good manners, and which is consistent with high spirit and conscious worth. In your dealings with those below you—and this is a more material question—you will employ kind expressions and friendly deeds. You will observe their capabilities; you will have compassion on their wants; you will ever strive to impart to them some share in those advantages, intellectual as well as physical, in which you surpass them—and thus to raise them, as you raise yourselves, in the gradually ascending scale of human excellence. And this consideration, which I deliberately submit to you last, is among the most important of all that I have addressed to you; seeing that, if we would rightly estimate either the interests of humanity or our own interests, the improvement of the very humblest orders ought to be the principal object with us all. Now this, my friends, must very materially depend on the aid and encouragement that they may receive from you—because you, being chiefly, as I presume, of the middle class, are the order most in contact with them—the order next above them—the link by which they hold, in the heaven-appointed concatenation of society. From the great and powerful they can receive little direct assistance, because they have little immediate intercourse with them; and, therefore, it is to your countenance—to your sympathy—that they must mainly trust, next to God and to their honourable industry and energy, for a more elevated condition of existence.

These simple observations I have addressed to you, to the end that I may persuade you to pass in rational occupation and studious self-improvement hours which may otherwise be wasted in folly or polluted by vice—but which, when applied to the cultivation of your character, to the enlargement of your knowledge, to the regulation of your intellects, will fit you for any station to which it may please God to call you, and enable you, by His aid and blessing, to run with pleasure, with honour and success, the race that is set before you.

# A SERMON

ON THE

## EVILS OF EDUCATION

WITHOUT A RELIGIOUS BASIS,

PREACHED IN YORK MINSTER,

ON SUNDAY, 29TH OF SEPTEMBER, 1844,

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BY WILLIAM COCKBURN, D.D.,

DEAN OF YORK.

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1844.

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## SERMON, &c.

IF ANY MAN AMONG YOU SEEMETH TO BE WISE IN THIS WORLD  
LET HIM BECOME A FOOL THAT HE MAY BE WISE. FOR  
THE WISDOM OF THIS WORLD IS FOOLISHNESS WITH GOD.  
—1 *Cor.* iii. 18, 19.

The vanity of human wishes and of human pursuits has long been a fertile subject of remark to writers both antient and modern. A Roman poet enumerates all the objects which ever are, or ever are likely to be pursued by man, and proves that not one of them is worthy of pursuit. That writer, brethren, had never heard of the kingdom of Heaven; and, therefore, he knew not where only to direct the efforts of man's rational hope.

We can easily agree with him that honors and titles are empty sounds—that they please for a moment, but bring no permanent or solid satisfaction to the heart. But wealth many will say, and almost all by their actions seem ready to say—wealth is surely worth possessing and well worth acquiring. Is it



not a fit object for man to endeavour to procure the means of benefitting his fellow creatures, of obtaining good instructions for his children, and of exercising all the various charities of life? Yes surely, and if such were the usual modes of employing wealth, we could not deny or doubt that it would be a worthy object of man's pursuit. But experience, brethren, universal experience, tells us that it is not so. Wealth is usually employed to administer to luxury, to selfishness, to pride—it more often leads to evil than to good—it bribes companions in wickedness—it occupies the mind with an object of intense and ever increasing interest, and draws it far away from the consideration of heavenly things.

But if wealth and honors be of dubious value, still may we not press upon the youthful mind that wisdom and learning can never be too highly estimated? Happy is the man, says Solomon, that findeth wisdom. For the merchandise of it is better than the merchandise of silver, and the gain thereof than fine gold; she is more precious than rubies, and all the things thou canst desire are not to be compared unto her. True, brethren, and justly speaketh this gifted man. But then, remember, He speaks of that wisdom which is founded entirely on religion. The fear of the Lord is the beginning of such wisdom. But men pursue but seldom that heavenly knowledge. It is to know and

understand the things of earth, that youth covets education, and that maturer age spends hours, and days, and years, in constant and laborious contemplations.

The public mind in this kingdom, and particularly in this place, is agitated and occupied with schemes for diffusing far and wide, nay universally, the benefits of education. Subscriptions are called for to effect this object, and good and sensible men meet frequently together to consider how best those subscriptions can be employed to produce the most extensive effects. May we not then wisely enquire if such universal diffusion of knowledge is certain to increase the happiness of man, and whether there may not be a limit which it should not pass?

First let me ask, what is the use of knowledge? I mean the knowledge of earthly things. If it expands the intellect, and leads the mind more thoroughly and more readily to appreciate the value and importance of Heavenly things, then is it indeed, as Solomon says, better than rubies. But if it begins and ends—and means to begin and end in mere mundane pursuits—it is likely to produce more evil than good.

How little does it benefit or advance eternal objects to acquire a knowledge of sounds uttered by such voices as shall soon be mute for ever. Can a Spirit destined for eternity be satisfied with

ascertaining the affinities and attractions of earthly particles which are soon to vanish away? Yet does the acquirement of such knowledge, vain and limited as it is, too often fill the heart with pride, that universal weed, and makes the little pigmy called man to fancy himself a Giant and able to assail the Throne of Jove.

Oh, turn, thy thoughts from contemplating thy little self to meditate on that vast tremendous existence who made the boundless ocean and the vast capacious globe, and shrink into thy real insignificance. Thou hast laboured in vain, thou hast spent many tedious hours to make clear and to understand that which thou canst never thoroughly understand—the secret nature of some earthly product. Whereas there is but one subject worthy to employ the faculties of a rational being; but one question to which he should assiduously and constantly seek an answer.

Shall man when he dieth live again?

In other words shall his faculties revive—shall he again feel pain or pleasure? If this question be answered as it will be answered by the Spirit within us, and by the voice of Revelation in a confident affirmative, then may I rationally inquire further,—can I by any means while staying here on earth affect my state hereafter? Here, brethren, is a

subject which cannot fail to interest every human heart.

We know—without any philosophic information—we know it is almost the only thing we do know,—we know that we can stay on earth but a little while, a very little while. The places that see us shall see us no more. And then when we go home—what then? Jesus Christ informs us, and our natural feelings lead us to think that; we shall live again in exquisite joy or in dreadful misery during ages beyond human calculation. Is it true? Is this future existence rationally to be expected? Was Jesus Christ a messenger from God, and was all which he told us sure to come to pass? How awful—how grand—how glorious the prospect before us. Oh, fix the mind upon this hope—consider it—dwell upon it—and till you are satisfied on this all important subject let not the pursuits of the vain unproductive objects of human wisdom employ the hours of reflection in which that hope of Heaven might be confirmed.

These worldly studies if kept subservient to the higher interests of eternity, exercise the understanding and teach it more thoroughly to appreciate the works of the great Creator. But, alas! how often do they lead through the perverseness of human nature to an opposite end? A little progress in science, a little pre-eminence in literature, fills the



mind with a lofty notion of its own superiority, and makes man indisposed to receive that doctrine which proves him to be but an atom in the universe—the creature of an hour—and after that hour to be overwhelmed perhaps with darkness and despair.

How is it that so many men of learning and of deep thought have been opposed to Christianity—Voltaire, and Hume, and Gibbon, and I grieve to add La Place. Dare we suppose that after much reflection and inquiry these eminent men concluded that our religion was a fable? No, brethren, it was pride—human pride—the pride of superior talents that made them refuse to consider proofs, to hear arguments, or to suffer conviction to enter into their minds—a conviction which could only be accompanied by a sense of their own littleness. It was the same when Christianity first appeared,—the learned Scribes, the haughty Pharisees, the Chief Priests opposed it, and shut their eyes to all the miracles before them. The philosophers of Athens doubted, and Celsus, and Posphyry, and Julian—all men of learning—united themselves to shut out the light from Heaven. They would not hear the arguments which were offered to them, but met those arguments with a sneer. If such be the universal tendency of human learning, may we not caution those who lead the young in the way of science to be cautious lest they gradually undermine and

destroy that solid and substantial hope which may cheer them in the hour of sorrow and smooth the bed of death ?

The fear of God is the beginning of wisdom ; aye, and the end of true wisdom also. The knowledge of God is the only knowledge worth possessing ; and to acquire a faith in Jesus Christ is to acquire the only real happiness and peace and joy. “David,” said the aged mother of Hume to her learned son, “thy sophistries have taken from me that which I once cherished in my heart—which softened every calamity and heightened every good—and what hast thou left me in return ? the empty vanities of human pride. Oh go not about, as thou art wont, from place to place, to propagate a cold and cheerless philosophy, to dry up the well of living water, to poison the cup of salvation.”

How careful then, my brethren, should we be that in directing the studies of youth, we always begin with giving them a knowledge of Heavenly things—and that we base all further acquirements upon a true and thorough faith in Jesus Christ. Without that basis all human knowledge is not only useless, but absolutely injurious. It puffs up that poor weak creature—man—persuades him that he is superior to the fading creatures that surround him, and thus operates in direct opposition to that religion—whose characteristic—whose peculiar characteristic is humility.

The sense of the weakness of our understanding (says an antient author) which is the gift of humility is a temper of soul that prepares it for faith—partly as it puts us in a serious consideration of those things which are revealed to us—partly as it stops all curious inquiries into those things which are unsearchable, and principally as it entitles us to the promise—God giveth grace to the humble. And if worldly wisdom thus draws us insensibly from this necessary imitation of Him, who was meek and lowly of heart, what may we not ask with the aged matron, what can its cold and useless disclosures give us in exchange for that glorious hope of home, which cheers the weary traveller on his way, lightens the burthens he is doomed to bear—and leads him to his God?

*The Office of the Christian Minister.*

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A

S E R M O N,

PREACHED AT THE VISITATION AT SOUTHWELL,

MAY 7, 1839,

BY THE REV. CHARLES FLETCHER, M. A.

VICAR OF CAUNTON.

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SOUTHWELL.

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## A S E R M O N.

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2 CORINTHIANS, II., 16.

*who is sufficient for these things?*

WHEN Moses at the Burning Bush received his commission from God, constituting him the deliverer of his Nation from the bondage of Egypt, he was overpowered with a sense of his own inability to execute the work: *who am I*, he replied, *that I should go unto Pharaoh, and that I should bring forth the children of Israel out of Egypt?* And when the Israelites for their transgressions were given over into the hand of Midian, and were so grievously oppressed that they betook themselves to dens which they made in the mountains and to caves and strong holds, then God appointed Gideon to save them from the hands of the Midianites. But Gideon also felt that the task was beyond his power. *Oh my Lord,*

was his reply, *wherewith shall I save Israel? behold my family is poor in Manasseh, and I am the least in my father's house.* And so did Saul feel in his better days, and so did he express himself when placed at the head of God's peculiar people. And on more than one recorded occasion David felt the same: though one of the ablest of God's honoured instruments, yet when assured by the prophet Nathan of the future greatness of his race, and *that the throne of his Kingdom should be established for ever*, overpowered as it were by a feeling of the weight of such a dignity, he says, *who am I, O Lord God! and what is my house, that thou hast brought me hitherto?* These all felt and acknowledged the same thing. The object that was proposed to them might be in itself great and glorious, but it was not in them, or in any compass of means which their sphere of influence could control or command, to accomplish it: the dignity and honor might be vast and all-desirable, but it was not in themselves to sustain it. Neither *did* God leave them to themselves; but, on the contrary, he supported and sustained their minds under the sense of their own incompetency and nothingness. To the desponding objection of Moses, on the occasion alluded to, the Almighty answered, *Certainly I will be with thee.* The like promise, *Surely I will be with thee*, animated the confidence of Gideon; and all the Agents of his early dispensations were made to feel and understand that the works in which they

were engaged were not *their* works, but the *Lord's*. *The Lord shall fight for you, and ye shall hold your peace.* Their *dignity* arose from being honored with His commands; their *glory*, from His condescending to use them as His instruments; their *privilege*, from being admitted to a nearer view of His works and His perfections; and their *reward*, from promptly and implicitly following His direction.

And thus it still is under the Spiritual Economy of the Gospel. In this respect, as in so many others, the Law was but a shadow of what was to succeed it. In the great work which God is carrying on under the Economy of Grace, he condescends to make use of Ministers and Agents, but still the work is not *theirs* but *His*. Their unassisted power is no more the cause of the effects produced under their ministration, than was the rod of Pharaoh the cause of the parting asunder of the waters of the Sea, or of the gushing of the stream from the Rock. To convince the conscience of Sin, and to renew the corrupted heart, is no more within the compass of the powers of Man, than it would have been possible for the single strength of Moses to withstand the whole nation of Egypt; than for *one to chace a thousand, or two to put ten thousand to flight*. And while God, for the purpose of declaring this great truth, made use of such illiterate and humble instruments in the first promulgation of the Gospel, and during the

period of His miraculous interference, as placed it beyond all doubt or dispute, He supported the minds of those humble instruments, and of all who should succeed them in after time, by the very same consolation which he gave to his ancient servants, and even in the very same words ; *Lo, I am with you always, even to the end of the world.* The Christian Minister and the Ancient Leader are in all essential circumstances alike ; — both equally instruments in the hands of the Most High ; both charged with His commands to their fellow men ; and both having ends to accomplish beyond their own unassisted strength. The Christian Minister is powerless in himself, yet he seems, like the prophet of old, to have the power of Him who sent him placed at his disposal. Mighty through the spirit, he becomes the medium through whom a supernatural agency is exercised. To some he *is the savour of life unto life*, while to others *he is the savour of death unto death*. Well might the apostle exclaim at this thought, *who is sufficient for these things ?* The charge is indeed most serious, and the responsibility, I had almost said, awful ; but in the same proportion is the privilege great, and the reward of the faithful glorious.

Pursuing the strict parallel no longer, I purpose, nevertheless, in the observations which follow, to enlarge on the leading ideas of it, as far as may be consistent with practical utility on the present occa-



ession ; bespeaking your candour at the same time, my brethren of the Ministry, whose experience in general is greater than my own. These observations then, as you may have anticipated, will be confined to the Nature of the Ministerial Function ; and that Feature of it which naturally comes first to be considered is the ARDUOUSNESS of the Office.

I. The educational preparation for the Gospel ministry is at least equal to that of any other profession, both in the range and the depth of the studies which it comprises ; and it may be said indeed of this preparation, with more truth perhaps than of any other, that it is never completed. The examination of the oracles of God, especially at their source in the original languages, is continually leading to new and interesting inquiries and results, all affording light and confidence to the mind of the Christian Minister, and all capable of being rendered in some way profitable to his flock. The history of the Church offers a vast and rich field for his research ; and the faith with which he inspires others, and with which he rests himself on the great doctrines of the Gospel, cannot but be strengthened by his tracing them in an unbroken line from the first ages of Christianity, and by his finding in his course that the early Fathers of the Church saw them in the very same light in which we now see and understand them. But these researches, laborious though they may be, form no

part of the *arduousness* of the sacred office. Many, in almost every age, and in none more than the present, have been found *sufficient for these things*. St. Paul thought not of these when he made the exclamation of the Text ; indeed he accounted but as dross all human learning, and every earthly acquirement. No. The arduousness of the office of the Christian Minister consists in the greatness of the *end to be effected* under his ministration. That end is nothing less than the *restoration* of the fallen nature of man ; — the conversion of the souls of men ; and the *turning them from the power of Satan unto God*. The expressions employed in Scripture to denote this change sufficiently bespeak its magnitude. It is a change *from darkness to light*. It is a change even *from death unto life ; a breathing upon dry bones in order that they may live*. And who but God is sufficient for this ? Did the Gospel propose less than this ; were its object but to improve the human condition, by pruning the luxuriance of Nature, by restraining the excesses of vice and passion, by raising the tone of morals, and polishing the social character, easy in comparison would be the work, and within the legitimate compass of human means. But the scope of the Gospel is far higher. Its object is to *renew*, not merely to *mend*, the heart ; to *rebuild*, and not merely to *repair*, the moral fabric ; — not merely to cause men to put a restraint upon their vices, but to make them *new creatures*. The Gospel treats

with men as guilty before God ; and the Minister stands before his brethren with an offer of pardon, and with terms of reconciliation. He is charged to set before them their lost condition, and to represent them and himself in the light of rebels. They are to be made conscious of sin and guilt ; to acknowledge the righteousness of God's dealings ; to renounce all claim to His favor ; to cast themselves entirely on His Mercy ; and without hesitation or cavil accept of the terms of pardon *as they are offered*. But the obstacles that oppose the entrance of these humiliating truths into the heart are very great ; nay, humanly speaking, insuperable. Human pride and human ignorance have been ever in array against them. They have always been *stumbling-blocks* to some, and been accounted *foolishness* by others ; but still it has been the good pleasure of God by this *foolishness of preaching* to save them that believe. The attempt on the part of God's Minister to fasten on the conscience that humiliating sense of Man's utter unworthiness and helplessness which is requisite for his acceptance with his Maker may excite disgust in some ; it may be scoffed at by the levity and carelessness of others ; it may produce no effect whatever on many in consequence of their natural stupefaction and insensibility to spiritual things ; he may be regarded as an unnatural character, a messenger of dismal tidings ; and his earnestness may be deemed fanaticism and frenzy : — *No matter* ; — he

has no other course ; — he speaketh only that which hath been put in his mouth : he must not turn aside to the right hand or to the left ; nor shrink from declaring the whole counsel of God. He knows *whose* message he bears, and that God can, and will, when He sees fit, remove the obstacles that lie in his way. He knows that to those who by his means receive the Truth, that reception becomes to them the turning point of the Christian life. It is the foundation of the hope of the Divine favor ; it is the commencement of the renewal of the heart and life ; it is the beginning of a desire of holiness, and of a striving after the glory and approval of God ; it is the first stirrings of that mysterious breath which is the great instrument in the regeneration of those who are born again to God.

The arduousness of the Office of the Christian Minister is increased by a variety of circumstances. He is not a mere passive instrument after all. Though the work is not all his own, he must labour *as though it were*. He must *plant* and he must *water* with as much care as though the *increase* also were from himself. If he slumber upon his post, the souls committed to his watch become the prey of the enemy. Humanly speaking, every thing depends on his exertions. He must come out from amongst those with whom he has in his youth associated, and stand up in his new character often before men to

whom he is well known, and faithfully deliver to them his Master's message ; which to many minds is a work of more difficulty, and calling up a greater effort of moral courage, than if he were required to leave home and kindred, and appear in the same character and deliver the same message to distant and heathen nations. He must, in his social intercourse with others, neither countenance the vanities and frivolities of life, nor assume the garb of austerity and gloom ; but he must hold a path, not easy to trace and to keep, between the two, as the representative of a gracious Master, who equally desires the happiness and the holiness of his creatures. He must indeed be anxiously careful that his own life furnish an example of the doctrines which he recommends. He must know that any moral delinquency in him extends its hurtful influence to others also ; and even affects the Cause itself in which he is engaged : since it gives occasion to the enemies of God to blaspheme, and is a cause of fainting and falling back to the faithful and sincere. He must not remain satisfied with low attainments in goodness, but endeavour after the *perfection* of the Christian Character. And with the *harmlessness* of the dove he must unite the *wisdom* of the serpent. He must penetrate the recesses of the heart, and know the weaknesses of human nature, and the delusions of self-love. He must be aware of all the wiles of a most subtle adversary, and alive to all the arts he is constantly



practising in his eternal warfare against the Truth. He must know the latent prejudices and corruptions of man, and how the Enemy of Souls works with these, and upon these, in order to prevent the light from darting into the heart, and conviction from fastening itself on the conscience. And even when the first impressions have been made, and some advance begun, and the Christian has given up his good opinion of himself, and his dependence on some vague and indefinite notions of the Divine goodness in general, still the artifices of Satan are not wanting to turn him back in his course, or to divert him aside from it. The Father of lies will leave nothing untried to arrest the progress and completion of the Christian work. He will endeavour to cause some to rest in a few acts of outward observance, and to be mere *formalists* in religion. He will supply to others false grounds of confidence and consolation. He will suggest to those who have at some time felt apprehension and alarm on account of sin, that this very feeling is of itself enough to secure them from further fear; and thus that wholesome pain, which was intended to lead them to a change of life, becomes the prevention of any change. Against these and every other species of self-deception the Minister will ever be putting his people on their guard. The tendency of these delusions is to palliate, not to remove, corruption; to heal over the surface, not to reach to the core, of the wounds of

sin. Aware of the irresoluteness and inconstancy with which the soul seeks after eternal good, and what strong and powerful hold the world and the things of the world have on the affections, he will never be furnishing motives that may tend to weaken the influence of the things of time, and give strength and reality to the objects and interests of an endless eternity.

II. While thus earnestly engaged in his Master's work, watching for souls as one that must give account, and as if every thing depended upon himself alone, the Christian Minister still feels his total insufficiency in himself, and depends, for the realizing of his hopes and the crowning of his labors, on that *DIVINE AGENCY which he knows to be co-operating with him*. It is true the agency of the Spirit is all unseen :— there are no interpositions of Heaven now, whether of mercy or of judgment, as in times of old ;— no open and visible manifestations are made in return to faithful prayer ;— no ravens sent to convey bread and flesh to the hungry ;— no miracle wrought to prevent from being consumed the widow's meal and oil. God does not now bear witness with signs and wonders to the preaching of his ministers. No : these have all ceased with the exigencies which called them forth, and the purposes they were then designed to answer. They were but the tokens and manifestations of purer and higher

things, — the shadowings out of that spiritual economy in which they were all to terminate ; in which spirit would be elevated over matter ; the unseen over the visible ; and the lineaments of the image of God be again rendered legible in the second birth, the new creation of man. As in the heavenly bodies, the harmony and regularity of the motions of some, and the fixedness of others, in the regions of illimitable space, are the results of a few simple laws which impress the mind of him who can trace them with the highest ideas of the Infinitude of the Divine wisdom ; — so is it also in the realms of Grace. *The agency of the Spirit is the settled law of Christ's Church ;* — a law silent and unseen, yet the efficient cause of all the varied phænomena attendant on the repentance, the conversion, and the sanctification of the sinner. The language of revelation is all in unison with this fundamental article of faith ; and even where it is not directly affirmed it yet seems to be taken for granted, whether in the historic narrative, the didactic precept, or the epistolary communication. *It is not ye that speak*, said our Lord to his disciples, *but the spirit of your Father which speaketh in you.* St. Paul assumes not to himself the merit of his own labors : *yet not I, but the grace of God which was with me.* To the Philippians he writes, *it is God that worketh in you both to will and to do of his good pleasure.* Strange, that such a doctrine should not have met with all acceptance ! that, besides the numbers that

entirely disregard it, there should ever have been found any to deny it! But how else could the scriptures be fulfilled? Babes in knowledge as well as in grace, these cavillers require that the objects of the invisible world should be made obvious to sense; they want, in every instance, the chariot of fire and the horses of fire, in which *Elijah went up by a whirlwind into heaven*. But the Christian in his own experience feels the best proofs of the Agency of the Spirit; and the Christian Minister in particular finds it a peculiar source of consolation, exactly adapted to his circumstances and his wants. It operates in unison with his efforts, giving him the assurance that his *sufficiency is of God*. It acts as a spirit of conviction on those whom he is instrumental in awakening; and as an indwelling and sanctifying principle in the hearts of believers. He strives after a large measure of this Spirit for himself, and prays for its abounding in his flock. Depending upon another, he is thereby kept ever watchful and ever humble; yet at the same time he feels that he is not left alone. He is not depressed by doubt and uncertainty as to results, when those results are in the hands of God. He compares not the ends to be accomplished by himself with his own limited powers and resources; but, trusting to Him with whom nothing is impossible, he acquires a holy boldness, even to say with St. Paul, *I can do all things through Christ which strengtheneth me*. Throughout the universe of things

there is a most harmonious analogy. In the regions both of matter and of spirit *God is all in all*. In the operations of Nature and the ordinations of Providence, whatever is seen under the sun, or is done amongst men, He is the doer thereof: and, in the Mediatorial kingdom, every visible means and every apparent instrument are but secondary and subordinate and exterior portions of the **DIVINE AGENCY**: *Not by might, nor by power, but by my Spirit, saith the Lord of Hosts.*

III. Having thus dwelt on the arduousness of the Office of the Christian Minister, and the ground of his strength and support, I find I must forbear, from want of time, to speak, as I could have wished, on the *dignity* of our office, as well as its *privileges* and *rewards*. I name not its dignity to flatter our vanity, or for the purpose of magnifying ourselves; far from it: but we have the sanction of the Apostle for *magnifying our office*. No one can succeed in any pursuit for which he does not feel some attachment and enthusiasm; least of all in that where no degree of zeal and ardour can be disproportionate or misplaced. If ever we allow ourselves to grow indifferent, or to think coldly or lightly of our calling, from that moment our arm is paralysed, and our strength gone from us. The permanence of these interests which are affected by our office is alone sufficient to constitute its *dignity*. They are the only interests, the



only objects, to which any thing certain or durable can attach. All else is transitory and uncertain, and bears the impress of vanity and nothingness. The fruits of learning, and the discoveries of science, and the splendours of art,—the embellishments of social life, and the safeguards of human law,—all these, however valuable, and however essential to the well being of man and the developement of his powers and resources, are, nevertheless, parts of a system of things which is destined to pass away. *The end of all things is at hand.* An hour is coming, which is even now near, when we shall know that nothing sublunary is worth a thought, and when the greatness of eternal realities will fill every power of perception we possess. The *nature* also of our occupations and engagements is of an elevated kind. We cannot but perceive that the material part of the creation was formed for the sake of the immaterial; that the heavens and the earth, the darkness and the light were made but to be subservient to the functions and the powers of man; and that, of these faculties and powers, his Moral Nature is that which is the highest, and which brings him into the closest connexion with the Creator. Now it is with this, the highest part of his nature, that we have to do: to his accountability as a reasonable and moral being have we to direct our appeal. Our object is to establish in the breast the dominion of conscience; to illuminate the soul with heavenly light; to deliver

the will and the affections from the bondage of corruption ; to cleanse the heart from the stains of guilt ; and, in short, to point and lead the way whereby men may be restored to the Divine Favor, and be made the *Sons of God*. And what an honor, my brethren, to be so employed ! Nor should you consider it less a *privilege*. You are permitted to enter within the inclosure, and to *come up into the mount* : you are allowed a nearer approach, as it were, to the Father of Spirits, and admitted to a closer view of His ways and His doings. You stand, it may be said, *in the council of God*. Your situation gives you great advantage in overcoming the love of the world, and in keeping alive in your hearts a spirit of devotion. You cannot be in the same danger with others of being taken by surprise, and unprepared for your great account ; since it is yours to stand on the watch, and give notice of the *bridegroom's coming*. You can hardly fail, while dispensing the *waters of life* to others, to drink of them yourselves. With you there is no clashing of your views as men with your interests as Christians : your duties to the world, your duties to your families, your duties to yourselves, and your duties to God are all one and the same. You are in the surest way to form correct notions of things. The opportunities you have, in attending the beds of sickness, and in witnessing there the altered estimate which the soul forms of the relative values of the objects of Time and

of Eternity, when it is withdrawing from the one and approaching to the verge of the other, are calculated to preserve you from the universal delusion under which the World lieth, and under which it is content to live on. A large portion of your thoughts is even now occupied with what must engross them throughout eternity ; and your proper business and pursuit is that *one thing needful*, which is the great and immediate end of human existence, and from which alone is derived to Time all its momentous importance.

May you, my brethren, feel the *power of the Spirit* seconding and sustaining you under the arduousness of your calling ; and while sensible of the dignity, and appreciating the privileges, of your sacred Profession, may you be animated to patient perseverance by looking forward to your *reward* in that State, where *they that be wise shall shine as the brightness of the firmament, and they that turn many to righteousness as the stars for ever and ever.*

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